SPECIAL PROVISIONS
ROUTE U.S. 46 AT HOLLYWOOD AVENUE
CONTRACT NO. 053950370
TOWNSHIP OF FAIRFIELD, ESSEX COUNTY
FEDERAL PROJECT NUMBER FS-7802 (161)

AUTHORIZATION OF CONTRACT

The Contract is authorized by the provisions of Title 27 of the Revised Statutes of New Jersey and supplements thereto, and Title 23 of the United States Code - Highways.

SPECIFICATIONS TO BE USED

The 2007 Standard Specifications for Road and Bridge Construction, of the New Jersey Department of Transportation as amended herein will govern the construction of this Project and the execution of the Contract.

These Special Provisions consist of the following:

Pages 1 to 55 inclusive.

General wage determinations issued under Davis-Bacon and related acts, published by US Department of Labor, may be obtained from the Davis-Bacon web site at http://www.access.gpo.gov/davisbacon/nj.html under the appropriate county, select the construction type heading: HIGHWAY.

Pay the prevailing wage rates determined by the United States Secretary of Labor and the New Jersey Department of Labor. If the prevailing wage rate prescribed for any craft by the United States Secretary of Labor is not the same as the prevailing wage rate prescribed for that craft by the New Jersey Department of Labor, pay the higher rate.

State wage rates may be obtained from the New Jersey Department of Labor & Workforce Development (Telephone: 609-292-2259) or by accessing the Department of Labor & Workforce Development's web site at http://lwd.dol.state.nj.us/labor/wagehour/wagehour_index.html The State wage rates in effect at the time of award are part of this Contract, pursuant to Chapter 150, Laws of 1963 (NJSA 34:11-56.25, et seq.).

If an employee of the Contractor or subcontractor has been paid a rate of wages less than the prevailing wage, the Department may suspend the Work, and declare the Contractor in default.

DIVISION 100 – GENERAL PROVISIONS

SECTION 101 – GENERAL INFORMATION

101.03 TERMS
THE FOLLOWING TERMS ARE CHANGED.

Completion.
(3) IS CHANGED TO:

3. The Contractor has satisfactorily executed and delivered to the RE all documents, including federal form FHWA-47 "Contractor's Statement of Materials and Labor" according to 23CFR 635, certifications, and proofs of compliance required by the Contract Documents, it being understood that the satisfactory execution and delivery of documents, certificates, and proofs of compliance is a requirement of the Contract.

pavement structure. The combination of pavement, base courses, and when specified, a subbase course, placed on a subgrade to support the traffic load and distribute it to the roadbed (see Figure 101-1). These various courses are defined as follows:

1. **pavement.** One or more layers of specified material of designed thickness at the top of the pavement structure.
2. **base course.** One or more layers of specified material of designed thickness placed on the subgrade or subbase.
3. **subbase.** One or more layers of specified material of designed thickness placed on the subgrade.

101.04 INQUIRIES REGARDING THE PROJECT

1. **Before Award of Contract.** The Bureau of Construction Management at

   CMTEAM3@dot.state.nj.us

2. **After Award of Contract.**

   North Region
   Mr. Carl F. Kneidinger, Regional Construction Engineer
   200 Stierli Court
   Mt. Arlington, NJ 07856-1322
   Telephone: 973-770-5025

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.04 EXAMINATION OF CONTRACT AND PROJECT LIMITS

1. **Evaluation of Subsurface and Surface Conditions.**

THE FOLLOWING IS ADDED:

International Roughness Index (IRI) values of the existing roadway

Route	Mile Post		Existing IRI Value
	From	To	
U.S. 46 East	53.60	53.70	93
U.S. 46 East	53.70	53.80	86
U.S. 46 East	53.80	53.90	141
U.S. 46 East	53.90	54.00	193
U.S. 46 East	54.00	54.10	107
U.S. 46 East	54.10	54.20	113

U.S. 46 West	53.60	53.70	105
U.S. 46 West	53.70	53.80	170
U.S. 46 West	53.80	53.90	163
U.S. 46 West	53.90	54.00	127
U.S. 46 West	54.00	54.10	99
U.S. 46 West	54.10	54.20	115

This information is the latest available IRI data of the right most through lane from the Pavement Management Unit. The pavement information shown herein was obtained by the Department for design and estimate purposes. It is made available to the authorized users only that they may have access to the same information available to the State. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION: ROUTE U.S. 46 AT HOLLYWOOD AVENUE

DRILLER: JERSEY BORING & DRILLING CO., INC.

INSPECTOR: VASU GANARAJAN & PRADEEP GAJUREL

COUNTY/TOWNSHIP: FAIRFIELD TOWNSHIP, ESSEX COUNTY, NJ

DATE STARTED: 3/15/06 **DATE COMPLETED: 5/17/06**

CORE NUMBER	**1**	**2**	**3**	**4**	**5**
ROUTE	46	46	46	46	46
DIRECTION (N, E, S, W)	E	E	E	W	W
MILE POST (MP or Station)	115+00	115+00	115+00	124+00	124+00
LANE NO. (Left to Right)	-	2	1	-	2
SHOULDER (Inside or Outside)	Outside	-	-	Outside	-
CORE DIAMETER (Inches)	6	6	6	6	6
TOTAL CORE DEPTH (Inches)	28	27.5	27.5	25	26
CORE DRILLED TO	Sub-grade	Sub-grade	Sub-grade	Sub-grade	Sub-grade
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	AC
AC THICKNESS (Inches)	12	5	5	5	4
PC THICKNESS (Inches)	-	10.5	10.5	8	10

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was used by the Department for design and estimate purposes.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION: ROUTE U.S. 46 AT HOLLYWOOD AVENUE

DRILLER: JERSEY BORING & DRILLING CO., INC.

INSPECTOR: VASU GANARAJAN & PRADEEP GAJUREL

COUNTY/TOWNSHIP: FAIRFIELD TOWNSHIP, ESSEX COUNTY, NJ

DATE STARTED: 3/15/06 **DATE COMPLETED: 5/17/06**

CORE NUMBER	**6**	**7**	**8**	**9**	**10**
ROUTE	46	CR 625	CR 625	CR 625	CR 625
DIRECTION (N, E, S, W)	W	N	N	S	S
MILE POST (MP or Station)	124+00	6+00	6+00	14+00	14+00
LANE NO. (Left to Right)	1	1 (Near curb)	1	1 (Near Curb)	1
SHOULDER (Inside or Outside)	-	-	-	-	-
CORE DIAMETER (Inches)	6	6	6	6	6
TOTAL CORE DEPTH (Inches)	26	25.5	25.5	25.5	24
CORE DRILLED TO	Sub-grade	Sub-grade	Sub-grade	Sub-grade	Sub-grade
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	AC
AC THICKNESS (Inches)	4	2.5	2.5	3	2
PC THICKNESS (Inches)	10	11	11	10.5	10

* Lane 1 is the left lane in the direction of travel.

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NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION: ROUTE U.S. 46 AT HOLLYWOOD AVENUE

DRILLER: JERSEY BORING & DRILLING CO., INC.

INSPECTOR: VASU GANARAJAN & PRADEEP GAJUREL

COUNTY/TOWNSHIP: FAIRFIELD TOWNSHIP, ESSEX COUNTY, NJ

DATE STARTED: 3/15/06 **DATE COMPLETED: 5/17/06**

CORE NUMBER	**11**	**12**	**13**	**14**	**15**
ROUTE	CR 625	CR 625	CR 625	CR 625	Ramp B
DIRECTION (N, E, S, W)	S	N	S	N	E
MILE POST (MP or Station)	11+15	11+15	8+85	8+85	20+50
LANE NO. (Left to Right)	1	1	1	1	1
SHOULDER (Inside or Outside)	-	-	-	-	-
CORE DIAMETER (Inches)	6	6	6	6	6
TOTAL CORE DEPTH (Inches)	26.5	28.5	27	27	25.5
CORE DRILLED TO	Sub-grade	Sub-grade	Sub-grade	Sub-grade	Sub-grade
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	AC
AC THICKNESS (Inches)	2.5	2.5	2.5	2.5	6
PC THICKNESS (Inches)	12	14	12.5	12.5	7.5

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was used by the Department for design and estimate purposes.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION: ROUTE U.S. 46 AT HOLLYWOOD AVENUE

DRILLER: JERSEY BORING & DRILLING CO., INC.

INSPECTOR: VASU GANARAJAN & PRADEEP GAJUREL

COUNTY/TOWNSHIP: FAIRFIELD TOWNSHIP, ESSEX COUNTY, NJ

DATE STARTED: 3/15/06 **DATE COMPLETED: 5/17/06**

CORE NUMBER	**16**	**17**	**18**	**19**	**20**
ROUTE	Ramp A	46	46	46	46
DIRECTION (N, E, S, W)	S	W	E	W	E
MILE POST (MP or Station)	16+20	108+00	109+00	115+20	119+00
LANE NO. (Left to Right)	1	-	-	-	-
SHOULDER (Inside or Outside)	-	Outer	Outer	Outer	Outer
CORE DIAMETER (Inches)	6	6	6	6	6
TOTAL CORE DEPTH (Inches)	29	20	22	27.5	26.5
CORE DRILLED TO	Sub-grade	Sub-grade	Sub-grade	Sub-grade	Sub-grade
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	AC
AC THICKNESS (Inches)	7	4	6	9.5	3.5
PC THICKNESS (Inches)	10	-	-	-	9

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was used by the Department for design and estimate purposes.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION: ROUTE U.S. 46 AT HOLLYWOOD AVENUE

DRILLER: JERSEY BORING & DRILLING CO., INC.

INSPECTOR: VASU GANARAJAN & PRADEEP GAJUREL

COUNTY/TOWNSHIP: FAIRFIELD TOWNSHIP, ESSEX COUNTY, NJ

DATE STARTED: 3/15/06 **DATE COMPLETED: 5/17/06**

CORE NUMBER	**21**	**22**	**23**		
ROUTE	46	46	46		
DIRECTION (N, E, S, W)	E	W	E		
MILE POST (MP or Station)	127+00	119+80	116+20		
LANE NO. (Left to Right)	-	-	-		
SHOULDER (Inside or Outside)	Outer	Outer	Outer		
CORE DIAMETER (Inches)	6	6	6		
TOTAL CORE DEPTH (Inches)	26.5	26	24		
CORE DRILLED TO	Sub-grade	Sub-grade	Sub-grade		
SURFACE TYPE (AC/PC)	AC	AC	AC		
AC THICKNESS (Inches)	5.5	5	4		
PC THICKNESS (Inches)	9	9	8		

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was used by the Department for design and estimate purposes.

3. Existing Plans and As-Builts.

Existing Plans and As-builts used are as follows:

a. Route 12, Section 8, General Property Key Map
b. Route 6, Section 23. General Property Key Map, dated 1943.
c. Pamel Homes, Final Plat, dated 1971.
d. Fairfield Road and Hollywood Avenue, General Property Parcel Map, dated 1974.
e. Fairfield Road and New Dutch Lane, General Property Parcel Map, dated 1974.
f. Borough of Fairfield, Water System Sectional Plats, dated 1974.
g. Borough of Fairfield, Tax Map.

h. Route 6, Section 23B dated April 1951.

SECTION 105 – CONTROL OF WORK

105.05 WORKING DRAWINGS
THE SECOND PARAGRAPH IS CHANGED TO:

Ensure that working drawing submissions also conform to the Department design manuals and other Department standards for the proposed work. Ensure that working drawings are signed and sealed by a Professional Engineer. After Award, the Department will provide additional formatting information, the number of copies required, and the designated design unit to which the Contractor shall submit working drawings.

105.06 COOPERATION WITH OTHERS

THE FOLLOWING IS ADDED:

Assure that Paul Spiegel of New Jersey Transit is informed 2 weeks in advance of beginning Stage 1 that the EB and WB bus stops will be unavailable. Paul Spiegel's address is:

Paul Spiegel
Manager, Bus Stop and Shelter Programs
New Jersey Transit Headquarters
One Penn Plaza East
Newark, NJ 07106-2246
Tel:973-491-7783

Assure that Paul Spiegel of New Jersey Transit is informed 2 weeks in advance of completing Stage 1 that the EB temporary bus stop will be available and permanent WB bus stop will be available.

Assure that Paul Spiegel of New Jersey Transit is informed 2 weeks in advance of completing Stage 2A that the EB permanent bus stop will be available.

Assure that Nick Persad of Signal Outdoor Advertising, LLC is informed 2 weeks in advance of beginning Stage 1 that the EB and WB bus shelters must be removed and stored until completion of Stage 1 because the bus stops will not be available. Nick Persad's address is:

Nick Persad
Signal Outdoor Advertising, LLC
1901 E. Linden Avenue, Unit 9
Linden, NJ 07036
Tel. 908-862-7000 x11

Assure that Nick Persad of Signal Outdoor Advertising, LLC is informed 2 weeks in advance of completing Stage 1 that the EB temporary bus stop will be available and permanent WB bus stop will be available and the bus shelters should be constructed on the pads.

Assure that Nick Persad of Signal Outdoor Advertising, LLC is informed 2 weeks in advance of completing Stage 2A that the EB permanent bus stop will be available and the bus shelter should be moved from the temporary pad to the permanent pad.

105.07.01 Working in the Vicinity of Utilities

A. Initial Notice.

ELECTRIC

Mr. Ed Elian, Supervisor
Telephone: 973-365-2848
Public Service Electric and Gas Company
Metropolitan Division
150 Circle Avenue
Clifton, NJ 07011
Mr. Bart Regner, Senior Engineer Tech
Telephone: 973-365-5320

TELECOMMUNICATION

Mr. Brian Peterson, Public Requirement Engineer
Verizon – NJ, Inc.
175 Park Avenue, Room 301
Madison, NJ 07940
Telephone: 973-631-7561

GAS

Mr. Jorge Silva, Project Sponsor Delivery-Construction
Public Service Electric and Gas Company
80 Park Plaza T13
Newark, NJ 07102-4194
Telephone: 973-430-7333

COMCAST

Mr. Richard Gugulski, Outside Plant Engineer
Comcast Cablevision
800 Rahway Avenue
Union, NJ 07083
Telephone: 732-602-7444

WATER

Mr. Lawrence A. Gonnello, PE
Township Engineer
Township of Fairfield
230 Fairfield Road
Fairfield, NJ 07004
Telephone: 973-882-2725

SANITARY

Mr. Lawrence A. Gonnello, PE
Township Engineer
Township of Fairfield
230 Fairfield Road
Fairfield, NJ 07004
Telephone: 973-882-2725

Mr. William J. Murphy, Staff Engineer
Two Bridges Sewerage Authority
P.O. Box 188
Lincoln Park, NJ 07035
Telephone: 973-696-4494

B. Locating Existing Facilities.

2.

Bureau of Traffic Operations, North Region (TOCN)
670 River Drive
Elmwood Park, NJ 07407-1347
Telephone: 201-797-3575

3.

Bureau of Electrical Maintenance, North Region
200 Stierli Court
Mt. Arlington, NJ 07856-1322
Telephone: 973-770-5065

C. Protection of Utilities.

THE FOLLOWING IS ADDED:

Coordinate with the utility companies to ensure that there will be no utility conflicts before installing the traffic signal and highway lighting equipment.

105.07.02 Work Performed by Utilities

Company Name & Address	Contact Person	Number of Day Advance Notice
ELECTRIC Public Service Electric and Gas Company Metropolitan Division 150 Circle Avenue Clifton, NJ 07011	Mr. Ed Elian, Supervisor Telephone: 973-365-2848 Mr. Bart Regner, Senior Engineer Tech Telephone: 973-365-5320	12 weeks
TELECOMMUNICATIONS Verizon – NJ, Inc. 175 Park Avenue, room 301 Madison, NJ 07940	Mr. Brian Peterson, Public Requirement Engineer Telephone: 973-631-7561	8 weeks
GAS Public Service Electric and Gas Company 80 Park Plaza T13 Newark, NJ 07102-4194	Mr. Jorge Silva, Project Sponsor Delivery-Construction Telephone: 973-430-7333	12 weeks
COMCAST Comcast Cablevision 800 Rahway Avenue Union, NJ 07083	Mr. Richard Gugulski, Outside Plant Engineer Telephone: 732-602-7444	5 weeks
WATER Township of Fairfield 230 Fairfield Road Fairfield, NJ 07004	Mr. Lawrence A. Gonnello, PE, Township Engineer Telephone: 973-882-2725	2 weeks
SANITARY Township of Fairfield 230 Fairfield Road Fairfield, NJ 07004	Mr. Lawrence A. Gonnello, PE, Township Engineer Telephone: 973-882-2725	2 weeks

Utility Work and Time Frames
General Notes:

1. State's resident engineer will provide the utility with the notices called for in the schedules.
2. State will provide the utility with survey control. The State and the utility shall jointly verify the location of the facilities prior to installation.
3. Poles shall be placed as close to the right-of-way as practical, minimum of 18" from face of curb to face of pole.
4. Utility schedules are estimated time frames for this utility owner only and do not include work performed by other utility owners sharing joint facilities.
5. Utility schedules are based on the projected traffic control and staging plan for each utility mobilization. Utility service demands, field and weather conditions may alter these schedules. State (contractor) changes to the traffic control and staging require reestablishing utility schedules.
6. Where joint facilities are proposed, the utility shall coordinate its work with the joint owners.
7. Existing facilities can only be removed after the relocated facilities have been installed and are in operation.
8. Distances, stations, offsets, lengths or units on the utility plans are approximate (plus or minus).
9. State's Contractor to provide traffic control for the installation of the gas mains.
10. Gas work to be performed between April 15th and October 15th.

Public Service Electric and Gas Company– Electric

Existing Facilities
Aerial Primary and Secondary

Work to be performed by Utility 1. Route 46 WB Sta. 111+90 (pole#62841) to Sta. 127+10 (pole #62392) Install new poles and applicable guy anchors. Construct new/or transfer existing 13KV primary feeder and secondary cables. Relocate riser at poles #62842 & #62843. Remove abandoned existing aerial facilities

Schedule: 1 Utility requires 12 weeks notice and 15 working days to do the work.

2. Route 46 EB Sta. 110+50 (pole #62805) to Sta. 122+35 (pole #60656) then along north side of Hollywood Avenue to Sta. 6+80 (pole #60654) install new poles and applicable guy anchors. Construct new and/or transfer existing 13KV primary feeder and secondary cables. Remove abandoned existing aerial facilities.

Schedule: 2 Utility requires 4 weeks notice and 15 working days to do the work.

3. Route 46 EB Sta. 12+35 (pole #60656) to Sta. 132+50 (pole # 1898) install new poles and applicable guy anchors. Construct new and/or transfer existing 13KV primary feeder and secondary cables. Remove abandoned existing aerial facilities.

Schedule: 3 Utility requires 4 weeks notice and 12 working days to do the work.

4. Hollywood Avenue Sta. 0+30 (new pole #60234) to Sta. 6+80 (new pole #60654) Install new poles and applicable guy anchors. Construct new and/or transfer existing 13KV primary feeder and secondary cables.

Schedule: 4 Utility requires 4 weeks notice and 10 working days to do the work.

5. Hollywood Avenue Sta. 4+30 (new pole #60652) to Sta. 4+00 (new pole #63581). Install new poles and applicable guy anchors. Construct new and/or transfer existing 13KV primary feeder and secondary cables. Remove abandoned existing aerial facilities.

Schedule: 5 Utility requires 2 weeks notice and 5 working days to do the work.

6. Route 46 WB Sta. 122+40 (pole #60657) to Hollywood Avenue Sta. 15+95 (pole #60662) Install new poles and applicable guy anchors. Construct new and/or transfer existing 13KV primary feeder and secondary cables.

Schedule: 6 Utility requires 4 weeks notice and 10 working days to do the work.

7. Hollywood Avenue Sta. 14+40 (pole #60660) to pole #62511 located on north side of Access A. Install new pole and applicable guy anchors. Construct new and/or transfer existing 13KV primary feeder and secondary cables. Remove abandoned existing aerial facilities.

Schedule: 7 Utility requires 2 weeks notice and 5 working days to do the work.

Verizon – New Jersey, Inc. (Telecommunications)

Existing Facilities
Aerial copper and fiber cables within the project limits

Work to be performed by Utility

1. Route 46 WB Sta. 115+92 (pole#62842) to Sta. 127+10 (pole #62392) construct 300, 400 & 900 pair, 24 & 26 gauge copper cable and relocate 24, 72 & 144 pair fiber optic cables on poles installed by PSE&G Co. Remove 300, 400 & 900 pair aerial copper cables.

Schedule: 1 Utility requires 4 weeks notice and 25 working days to do the work.

2. Fairfield Road (CR 615) Sta. 19+10(MH) to Hollywood Avenue Sta. 1+65(pole #60650) construct 4" conduits and 216 pair, fiber optic cable, 900 and 2700 pair, 26 gauge copper cable from manhole to new pole installed by PSE&G Co.

Schedule: 2 Utility requires 4 weeks notice and 50 working days to do the work.

3. Route 46 WB Sta. 117+60 (pole #62843) relocate 4" riser w/24 pair, fiber optic cable and 400 pair, 26 gauge copper cable in 4" conduit to new pole installed by PSE&G Co.

Schedule: 3 Utility requires 4 weeks notice and 16 working days to do the work.

4. Route 46 WB Sta. 111+90 (pole #62841) to Route 46 EB Sta. 111+90 (pole #62804) construct 100 pair, 24 gauge, copper cable and 4" conduit riser at new pole #62804 (Sta. 112+10) installed by PSE&G Co.

Schedule: 4 Utility requires 4 weeks notice and 13 working days to do the work.

5. Fairfield Road (CR 615) Sta. 20+00 (pole #60234) to Hollywood Avenue Sta. 6+80 (pole #60654) Relocate 72 pair, fiber optic cable. Relocate 1200 pair and 2700 pair, 26 gauge copper cables. Relocate 2-4" CIB at pole #60650 to new pole installed by PSE&G Co.

Schedule: 5 Utility requires 4 weeks notice and 32 working days to do the work.

6. Route 46 WB Sta. 122+40 (pole #60657) to Hollywood Ave. Sta. 16+00 (pole #60662) relocate 300 pair, 600 pair, 900 pair, 1200 pair and 2700 pair, 24 and 26 gauge copper cables to new poles installed by PSE&G Co.

Schedule: 6 Utility requires 4 weeks notice and 35 working days to do the work.

7. Hollywood Ave. Sta. 4+30RT (pole #63581) relocate 200 pair, 26 gauge copper cable. Relocate 24 fiber optic cables to strip mall.

Schedule: 7 Utility requires 4 weeks notice and 6 working days to do the work.

8. Route 46 WB Sta. 121+60 and 122+00 install stub poles to pick-up new 900 pair copper cable to run under Hollywood Avenue.

Schedule: 8 Utility requires 4 weeks notice and 5 working days to do the work.

9. Hollywood Ave. Sta. 14+40 (pole #60660) to pole #62511 located on north side of Access A. Construct 100 pair, 24 gauge copper cable. Remove abandoned existing aerial facilities.

Schedule: 9 Utility requires 4 weeks notice and 9 working days to do the work.

10. Route 46 WB Sta. 122+50 (pole #60657) to Hollywood Ave. Sta. 12+30 (SAC Cabinet).

Schedule: 10 Utility requires 4 weeks notice and 40 working days to do the work.

11. Hollywood Ave. Sta. 12+30 (SAC Cabinet). Relocate SAC Cabinet if pole #60657 is relocated from alignment of existing aerial cables. Conduits will have to be extended to all old locations.

Schedule: 11 Utility requires 4 weeks notice and 35 working days to do the conduit work,

Public Service Electric and Gas Company

Existing Facilities
8" Gas main, valves, house services and appurtenances are within the project limits.

Work to be performed by Utility

1. Route 46EB Sta. 114+50 Lower 4" gas main in conflict with new drainage inlet.

2. Route 46EB from Sta. 117+20 then along Ramp A (behind the curb) to Hollywood Ave., then south along Hollywood Ave. to Sta. 2+50 construct 8" plastic gas main from Route 46 EB Sta. 117+20 then along Ramp A (behind the curb) to Hollywood Avenue, then south along westerly side of Hollywood Avenue to Sta. 2+50. Cut, purge, cap and abandon existing gas main.

3. Route 46 WB Sta. 117+95 to Hollywood Ave. Sta. 16+40 construct 8" plastic gas mains from Route 46 WB Sta. 117+50 then along the Ramp D (behind the curb) to Hollywood Avenue Sta. 16+40. Construct 2" and 3" services. Cut, purge, plug and abandon existing gas main.

4. Ramp D Sta. 44+90(W) to Route 46 WB Sta. 119+30 construct 4" HP plastic gas main from west side of Ramp D to Route 46 WB Sta. 119+30. Cut, purge, plug and abandon existing gas main.

Schedule: Item 1 through 4 Utility requires 12 weeks notice and 45 working days to do the work.

NOTE: Work is to be performed on the gas facilities from April 15 through October 15. This period can be extended based on the weather conditions and system demand requirements as determined by PSE&G Company.

Comcast Cablevision– Cable TV

Existing Facilities
Aerial coaxial, fiber and strand within the project limits.

Work to be performed by Utility

1. Route 46 Sta. 115+92 (pole #62842) to Sta. 127+10 (pole #62392) Construct aerial on pole installed by PSE&G Co. Remove abandoned existing aerial facilities.

Schedule: 1 Utility requires 5 weeks notice and 15 working days to do the work.

2. Route 46 WB Sta. 117+50 (pole # 62843) relocate riser to new pole installed by PSE&G Co.

Schedule: 2 Utility requires 5 weeks notice and 15 working days to do the work.

3. Hollywood Ave. Sta. 14+40 (pole #60660) to pole #62511 located on north side of Access A. Construct aerial facilities to new poles installed by PSE&G Co. Remove abandoned existing aerial facilities.

Schedule: 3 Utility requires 5 weeks notice and 15 working days to do the work.

4. Fairfield Road Sta. 20+00 (pole #60234) to Hollywood Ave. Sta. 6+80 (pole #60654) Relocate aerial facilities to new poles installed by PSE&G Co.

Schedule: 4 Utility requires 5 weeks notice and 15 working days to do the work.

5. Route 46 WB Sta. 122+40 (pole #60657) to Hollywood Ave. Sta. 16+00 (pole #60662) relocate aerial facilities to new poles installed by PSE&G Co.

Schedule: 5 Utility requires 5 weeks notice and 15 working days to do the work.

6. Hollywood Ave. Sta. 14+40 (pole #60660) to pole # 62511 located on north side of Access Road A Construct aerial facilities on new poles installed by PSE&G Co.

Schedule: 6 Utility requires 5 weeks notice and 15 working days to do the work.

Township of Fairfield – Water

Existing facilities

8", 12" & 14" water mains, fire hydrants and appurtenances within the project limits.

Work to be performed by the Township of Fairfield

Inspection of the facilities constructed by State's contractor.
Schedule: Township of Fairfield requires 2 weeks notice.

Work to be performed by the State (Contractor).

1. Route 46WB Sta. 116+80 to Sta. 121+50 Install 12" tapping sleeve and valve at Sta. 116+80 and Sta. 121+50 and construct 12" DICL water main. Install 8" tapping sleeve and valve and construct 8" DICL water main and fire hydrant assembly. After satisfactory testing and acceptance by the Township of Fairfield, install 12 " insertion valve at Sta. 116+85 and Sta. 121+47 and 1-8" insertion valve. Cut, cap and abandon existing water main.
2. Route 46 EB Sta. 112+65 to Sta. 121+35 Install 12" tapping sleeve and valve at Sta. 112+65 and Sta. 121+35 and construct 12" DICL water main. After satisfactory testing and acceptance by the Township of Fairfield install 12 " insertion valve at Sta. 112+70 and Sta. 121+30. Cut, cap and abandon existing water main.
3. Hollywood Ave. Sta. 3+60 to Sta. 5+50 install 14" tapping sleeves and valves and construct 14" DICL water main. Install fire hydrant assembly. Install 8" tapping sleeve and valve and construct 8" DICL water main and connect to new 14" DICL water main.
4. Route 46 EB Sta. 111+30 Sta., 115+00 and Route 46 WB Sta. 124+20 and Hollywood Avenue Sta. 15+80 Install fire hydrant and associated appurtenances.
5. Route 46 and Hollywood Avenue project limits Reset water valve boxes to proposed grade.

Schedule: 1 through 5 Included in Contractors' overall construction operations of the project.
Note: There will be no shut down of existing water facilities without Township of Fairfield's approval.

Township of Fairfield – Sanitary Sewer.

Existing facilities

8" sanitary sewer mains and manholes within the project limits.

Work to be performed by the Township of Fairfield

Inspection of facilities constructed by the State's contractor.
Schedule: Township of Fairfield requires 2 weeks notice.

Work to be performed by the State (Contractor)

1. Hollywood Ave. Sta. 1+40, Sta. 4+25 and Sta. 14+95 Reset sanitary sewer manhole castings to proposed grade.

Schedule: 1 Included in Contractors' overall construction operations of the project.

SECTION 107 – LEGAL RELATIONS

107.01 LEGAL JURISDICTION

107.01.02 Permits, Licenses, and Approvals

THE FOLLOWING IS ADDED:

Make no changes in permit-related plans or specifications except with the prior written permission of the NJDEP. Any construction, grading, removal of vegetation, or other activity at this site that affects a regulated area, other than specifically approved by the environmental permits, or as detailed in the approved drawings, requires additional written

approvals from the NJDEP. The commencement of such regulated activities without the appropriate approvals is in violation of state law. Consult with the NJDOT Bureau of Landscape Architecture and Environmental Solutions' environmental team regarding potential permit modifications.

During saw-cutting, milling, core sampling, installing longitudinal joint ties, diamond grinding, slip-form paving, placement of permanent roadway reflective markers, and similar operations that could cause dust, slurry, and storm-water runoff problems, do not create a dust hazard and ensure that debris and slurry do not enter inlets or environmentally sensitive areas, such as wetlands and water-bodies. This includes, but is not limited to, bridge deck, approach slab, and transition slab saw cutting. Provide for continuous removal of grinding residue from pavement surfaces by means such as mobile sediment control tanks before it is blown about by traffic motion, wind, or precipitation. Contain the concrete slurry and dispose of tit as specified in 202.03.07.b. The contractor may manage the slurry in the concrete washout facility.

SECTION 108 – PROSECUTION AND COMPLETION

108.01 SUBCONTRACTING

1. Values and Quantities.

1.

Specialty Items are as listed below:

Above ground highway lighting items.

Above and below bridge deck lighting items.

Electrical wire items.

ITS items, except for foundations, standards, and junction boxes.

108.07 TRAFFIC CONTROL

THE FOLLOWING SUBPART IS ADDED:

108.07.03 Drug Fair Property Access

To minimize the impact on parking spaces (227 existing stalls) at the Martin Plaza Shopping Center, sequence driveway construction to complete one driveway location before starting the next. Assure that parking spaces that are lost during construction are restored and new spaces created before the next parking area is disturbed. The following is a chart detailing available parking spaces vs. staging and construction durations:

Description	Construction Duration	Project Stage	Available Parking	Net Loss
Rt. 46 new East Driveway (2 Ph.)	25 CD	Stage 1	224	-3
Rt. 46 close existing West exit	17 CD	Stage 1	207	-20
Access Rd. "A" Phases 1 & 2	31 CD	Stage 1	195	-32
Access Rd. "A" Phase 3	9 CD	Stage 3	227	0

108.08 LANE OCCUPANCY CHARGES

THE SECOND SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

The Department will calculate the occupancy charge for each route by multiplying the length of time of the delayed opening, in minutes, by the rate specified in table 108.08-1.

TABLE 108.08-1 IS ADDED.

Table 108.08-1 Lane Occupancy Charges

Lane Occupancy	Charge
Overrun of "One Lane Maintained" Time Limits	$10/minute
Overrun of "Alternating Traffic Pattern" Time Limits	$20/minute

108.10 CONTRACT TIME

A. Remove the Stage 2A detour and open Ramps A and B within 45 days of closing the ramps.

B. Remove the Stage 2B detour and open Ramps C and D within 45 days of closing the ramps.

C. Complete all work required for Substantial Completion on or before May 4, 2011.

D. Achieve Completion on or before July 1, 2011.

108.19 COMPLETION AND ACCEPTANCE
THE FOLLOWING IS ADDED:

No Incentive Payment for Early Completion is specified for this project.

108.20 LIQUIDATED DAMAGES

Liquidated damages are as follows:

A. For each day that the Contractor fails to complete the work as specified in Subpart A of Subsection 108.10 of these Special Provisions, for opening Ramps A and B, the Department will assess liquidated damages in the amount of $4,000.

B. For each day that the Contractor fails to complete the work as specified in Subpart B of Subsection 108.10 of these Special Provisions, for opening Ramps C and D, the Department will assess liquidated damages in the amount of $4,500.

C. For each day that the Contractor fails to complete the work as specified in Subpart C of Subsection 108.10 of these Special Provisions, for Substantial Completion, the Department will assess liquidated damages in the amount of $5,400.

D. For each day that the Contractor fails to achieve Completion as specified in Subpart D of Subsection 108.10 of these Special Provisions, the Department will assess liquidated damages in the amount of $1,000.

THE FOLLOWING IS ADDED:

When the Contractor may be subjected to more than one rate of liquidated damages established in this Section, the Department will assess liquidated damages at the higher rate.

109.01 MEASUREMENT OF QUANTITIES
THE SECOND PARAGRAPH IS CHANGED TO:

The Department will designate Items as Measured Items or as Proposal Items by having a suffix of M or P in the Item number respectively. The Department will measure quantities of Measured Items for payment.

109.02 SCOPE OF PAYMENT
THE THIRD SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will not make additional or separate payment for work or portion of work unless specifically provided for in the “Measurement and Payment” Subsection.

DIVISION 150 – CONTRACT REQUIREMENTS

SECTION 152 – INSURANCE

SECTION 153 – PROGRESS SCHEDULE

153.03.02 CPM Progress Schedule Updates
THE LAST PARAGRAPH IS CHANGED TO:

If the project falls behind schedule for nonexcusable delays, so that the schedule indicates that the Work will not be completed by the Completion date, as specified in 108.10, take the necessary steps to improve progress. Under such circumstances, the RE may direct the Contractor to increase the number of shifts, begin overtime operations, work extra days including weekends and holidays, and supplement its construction plant. Furthermore, the RE may require the Contractor to submit for approval a recovery schedule showing how the Contractor proposes to meet the directed acceleration.

153.04 MEASUREMENT AND PAYMENT
THE THIRD PARAGRAPH IS CHANGED TO:

If the Contractor's CPM Progress Schedule update is not approved by the date of the progress meeting for the following update, the Department will assess liquidated damages to recover the Department's increased administrative costs. The Department will assess damages for each delinquent update as follows:

SECTION 155 – CONSTRUCTION FIELD OFFICE

155.03.01 Field Office

4. Communication Equipment.

a. Telephones. Provide 2 cordless phones with auto-switching.

c. Cell Phones. Provide 3 cellular phones. Ensure the cellular phone plan provides for unlimited mobile-to-mobile in-network usage, unlimited push-to-talk/ walkie-talkie usage and an anticipated monthly usage of 900 any-time minutes for each phone. Ensure the phones are on the same plan. Ensure the cellular phone plan has a home rate with no roaming charges within the state. Ensure each cellular phone has the following features:

1. Push to Talk / Walkie-Talkie capable
2. Camera with 1 megapixel picture capability
3. Battery life capable of 180 minutes of continuous use and 72 hours of standby use
4. Equipped with a hands-free headset
5. Base charger and car charger

d. Computer System. Provide a computer system meeting the following requirements:

Three computer configurations each meeting the following:

1. Equipped with an Intel Pentium IV processor with Hyper Threading technology having a clock speed of 3.5 GHz or faster, 1024 GB RAM, 512 MB Video RAM, 200 Gigabyte hard drive designated as drive C, one DVD (+/-) Writer Drive, one CD-R Recordable Drive. Ensure the system is USB 2.0 compatible and has at least two front USB ports.
2. Wireless Ethernet Hub Switch with appropriate number of ports and cables and a print server.
3. High-speed broad band connection and service with a minimum speed of ___ Megabytes per second (mbps) with dynamic IP address for the duration of the project.
4. 19 inch or larger Flat Screen LCD monitor with tilt/swivel capabilities.

5. 250 Megabyte or larger Zip Drive internal or external with backup software for MS-Windows and DOS, and fifteen corresponding formatted data cartridges corresponding to the tape drive size.
6. 1 Flatbed USB version 2.0 or greater Color Scanner with automatic document feed.
7. Uninterruptible power supply (UPS).
8. Surge protector for the entire computer configuration to be used in conjunction with the UPS.
9. 3computer workstations, chair, printer stand, and/or table having both appropriate surface and chair height.
10. One can of compressed air and screen cleaning solution every other month of the duration of the contract.

Ensure one computer has a 56K baud data/fax modem. If more than one computer configuration is specified, provide one wireless network card for the base computer configuration and hardwire connections between computer configurations as directed by the RE.

Also provide:

Three USB 1 GB Flash/Jump memory drives

Fifty CD-R 700 MB (or larger) recordable CD's compatible with the CD drive and 50 recordable DVD's.

Two CD/DVD Holder (each holds 50)

One color laser printers and supplies as follows:

1. HP PCL 5 emulation, with a minimum of 192 Megabytes of expanded memory, printer cable, and legal size paper tray.
2. One set of printer ink cartridges every other month for the duration of the construction project for each printer.

Software as follows:

1. Microsoft Windows, latest version with future upgrades for the duration of the entire project. Ensure 1 computer has a Microsoft Windows 32 Bit Operating System for ACES, Extra and Groupwise.
2. Microsoft Office Professional, latest version.
3. Norton's System Works for Windows, latest version, or compatible software package with future upgrades and latest virus patches.
4. Anti-Virus software, latest version with monthly updates for the duration of the contract.
5. Visio Professional Graphics Software for Windows, latest version
6. Primavera Project Planner, latest version
7. Adobe Acrobat, latest version, for Scanner

THE THIRD PARAGRAPH IS CHANGED TO:

When the computer system is no longer required by the RE, the Department will remove and destroy the hard drive, and return the computer system to the Contractor. The Department will retain other data storage media.

6. Office Equipment.

2. One digital camera(s). Ensure each digital camera has auto-focus, with rechargeable batteries and charger, 256 MB memory card, USB Memory Card Reader compatible with camera and field office computer, 1.5 inch LCD monitor, 5 mega pixel resolution, 10 X optical zoom lens, built in flash, image stabilization, computer connections, and a carrying case
3. ___ video camcorder(s). Ensure each video camcorder is a mini DVD camcorder with ___ optical zoom, 2" LCD monitor, USB 2.0 compatible and includes USB 2.0 connections.

7. Inspection Equipment.

1. 2 Calculators with trigonometric capability
2. 1 Date/ Received stamp and ink pad
3. 2 Electronic Smart level, 4 foot
4. 4 Carpenter rulers

5. 1 Steel tape, 100 feet
6. 2 Cloth tape, 100 feet
7. 2 Illuminated measuring wheel
8. 1 Plumb bob and cord
9. 1 Line level and cord
10. 1 Surface thermometer
11. 2 Concrete thermometer
12. 2 Digital infrared asphalt thermometer
13. ___ Direct Tension Indicator (DTI) Feeler Gage, 0.005 inch
14. ___ Sledge hammer, 8lb
15. 1 Self-leveling laser level with range of 100 feet and an accuracy of ¼ inch per 100 feet
16. 8 Hard hats - orange, reflectorized hard hats according to ANSI Z89.1.
17. 8 Safety garments – orange, reflectorized, 360º high visibility safety garments according to ANSI/ISEA Class 3, Level 2 standards. To be replaced yearly for the duration of the contract.
18. 8 Sets of rain gear with reflective sheeting
19. 8 Sets of hearing protection with a Noise Reduction Rating of 22 dB
20. 8 Sets of eye protection according to ANSI Z87.1
21. ___ Sets of fall arrest equipment according to ANSI Z359.1 standards consisting of a full body harness, lanyard and anchor.
22. 1 Light meter - capable of measuring the level of luminance in foot-candles
23. 4 Lantern flashlight, 6V with monthly battery replacements
24. ___ Digital Psychrometer
25. Testing equipment and apparatus conforming to AASHTO T23, T119, T152

155.03.03 Telephone Service
THIS SUBSECTION IS CHANGED TO:

Telephone service consists of monthly charges for telephone and cellular phones provided for the field office and materials field laboratory excluding set up charges.

155.04 MEASUREMENT AND PAYMENT
THE THIRD PARAGRAPH IS CHANGED TO:

The Department will make payment for TELEPHONE SERVICE for the actual costs of the charges as evidenced by paid bills submitted within 60 days of receipt from the service provider for telephone and cell phones.

SECTION 158 – SOIL EROSION AND SEDIMENT CONTROL AND WATER QUALITY CONTROL

158.02 MATERIALS

THE FOLLOWING MATERIAL IS ADDED:

Fine Aggregate 901.06.02

158.03.01 Environmental Manager

THE FOLLOWING IS ADDED TO THE THIRD PARAGRAPH:

The RE will ensure the original Environmental Compliance Check List and Inspection Form is retained within the project limits and is available upon request.

158.03.02 SESC Measures

THE LAST SENTENCE OF THE FIFTH PARAGRAPH IS CHANGED TO:

Immediately remove all soil or other materials washed, dropped, spilled, or tracked outside of the limit of disturbance or onto public right-of-way. If suitable, reuse it as specified in 202.03.07.A by hauling or other construction operations. If not suitable, dispose of it as specified in 202.03.07.B.

THE FOLLOWING IS ADDED TO THE FIFTH PARAGRAPH:

Keep paved roads and driveways clean at all times.

THE FOLLOWING IS ADDED:

Ensure refueling operations are conducted at a minimum of 50 feet, if feasible, from a water-body, wetland, or other environmentally sensitive area. Do not store fuel tanks closer than 50 feet, where feasible, from these sensitive areas. Immediately repair leaking equipment or remove it from the project limits. Clean up the tainted material and dispose of the material as specified in 202.03.08 of the specifications. Protect fueling areas from run-on and runoff.

Limit disturbance to the construction areas shown on the plans. Restore disturbed areas, including uplands, wetlands and transition areas as shown on the Landscape Plans and Environmental Plans. Restore disturbance outside construction areas shown on the plans to their pre-construction grades using native soils and plant with indigenous non-invasive vegetation as directed by the RE in consultation with the Bureau of Landscape Architecture and the Environmental Solutions, Environmental Team.

19. Oil-Only Emergency Spill Kit.
THE SECOND SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Include Oil-only Emergency Spill Kit, Type 1 consisting of the following:
THE FOLLOWING SUBPART IS ADDED:

158.03.04 Infiltration Sand Layer

Provide an infiltration sand layer using fine aggregate that meets the requirements for a K5 soil as defined by the New Jersey Department of Environmental Protection. A professional engineer, licensed in the State of New Jersey shall certify that the sand meets these requirements.

158.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
INFILTRATION SAND LAYER, ___" THICK	SQUARE YARD

SECTION 160 – PRICE ADJUSTMENTS

160.03.02 Asphalt Price Adjustment
NOTE 1 OF THE THIRD PARAGRAPH IS CHANGED TO:

1. The Department will determine the weight of asphalt binder for price adjustment by multiplying the percentage of new asphalt binder in the approved job mix formula by the weight of the item containing asphalt binder. If an item has a payment unit other than ton, the Department will apply an appropriate conversion factor to determine the number of tons used.

THE FOURTH PARAGRAPH IS CHANGED TO:

$$A = B \times [(MA - BA)/BA] \times C \times M \times G$$

Where:

A = Asphalt Price Adjustment
B = Bid Price for Tack Coat/Prime Coat
MA = Monthly Asphalt Price Index
BA = Basic Asphalt Price Index
C = Petroleum Content of the Tack Coat and Prime Coat in Percent by Volume:
    Use 100% for cutbacks and Tack Coat 64-22
    60% for Polymer Modified Tack Coat
    60% for RS or similar type emulsions
M = Percentage of Bid Price Applicable to Materials Only: Use 82%
G = Gallons of Tack Coat and Prime Coat Furnished and Applied

DIVISION 200 – EARTHWORK

SECTION 201 – CLEARING SITE

201.02 MATERIALS

THE FOLLOWING MATERIAL IS ADDED:

Plastic Pipe 909.02.03

201.03 CONSTRUCTION

201.03.01 Clearing Site

THE FOLLOWING IS ADDED:

H. Sprinklers.
Reset underground sprinklers on the property that is located on the north side of Hollywood Avenue from approximately Station 4 + 30 to Station 9 + 30. Relocate sprinklers that are located within proposed impervious areas within these limits as directed by the RE.

I. Parking Bumpers

Relocate parking bumpers at the Drug Fair Building as directed by RE.

201.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

The Department will not make payment for the Item CLEARING SITE in excess of $130,000 until Completion.

SECTION 202 – EXCAVATION

202.03 CONSTRUCTION

202.03.07 Reuse or Disposal of Excess Material

B. Disposal.

1.
THE FOLLOWING IS ADDED:

Ensure that excavated material is disposed of in a lawful manner outside of any regulated floodplain, wetland or transition area, and in such a way as to not interfere with the positive drainage of the receiving area.

SECTION 203 - EMBANKMENT

203.02.01 Materials
THIS SUBSECTION IS CHANGED TO:

Provide materials as specified:
Soil Aggregate (I-7, I-9, I-10, I-11, I-13, and I-14) 901.11
Geogrid Reinforcement 919.01.01

Coarse Aggregate (No. 57, 67) 901.03

203.03 CONSTRUCTION

THE FOLLOWING SUBPART IS ADDED:

203.03.03 Geogrid Reinforcement

Protect geogrid material from mud or other materials that may affix themselves to the geogrid.

Place the geogrid at the proper elevation with the principal strength direction oriented perpendicular to the embankment slopes. Pull the geogrid taut to remove wrinkles or folds. Secure in place with one or more of the following:

- Staples
- Pins
- Backfill

Place adjacent geogrid sheets with their edges perpendicular to the embankment side slopes touching (butted edge to edge).

Parallel to the embankment side slopes, mechanically fasten edges of adjacent geogrid sheets such that the connections meet the principal strength design requirements. Alternatively, use continuous sheets of geogrid.

Place coarse aggregate on top of the geogrid and compact it in lifts. Ensure that the placing, spreading and compacting of the coarse aggregate does not result in one or both of the following:

- Development of wrinkles in the geogrid
- Movement of the geogrid

Ensure that construction equipment does not operate directly on the geogrid. Ensure that a minimum fill thickness of 12-inch is maintained between the tracks and wheels of construction vehicles on the lift directly above the geogrid at all times. Minimize turning of vehicles on the lift directly above the geogrid. Ensure that there are no sharp turns (45 degrees or greater). Avoid sudden braking.

203.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
GEOGRID REINFORCEMENT	SQUARE YARD

THE FOLLOWING IS ADDED:

The Department will not include payment for the area of geogrid used in overlaps.

DIVISION 400 – PAVEMENTS

SECTION 401 – HOT MIX ASPHALT (HMA) COURSES

401.02.02 Equipment
THE LAST PARAGRAPH IS CHANGED TO:

When an MTV is used, install a paver hopper insert with a minimum capacity of 14 tons in the hopper of the HMA paver.

401.03.01 Preparing Existing Pavement

A. Milling of HMA.

Stage	Max. time interval allowed
All stages	24 hours

401.03.03 HMA Courses

D. Transportation and Delivery of HMA.
THE FIRST PARAGRAPH IS CHANGED TO:

Deliver HMA using HMA trucks in sufficient quantities and at such intervals to allow continuous placement of the material. Do not allow trucks to leave the plant within 1 hour of sunset unless nighttime lighting is provided as specified in 108.06. The RE will reject HMA if the HMA trucks do not meet the requirements specified in 1009.02. The RE will suspend construction operations if the Contractor fails to maintain a continuous paving operation. Before the truck leaves the plant, obtain a weigh ticket from a fully automatic scale. Before unloading, submit for each truckload a legible weigh ticket that includes the following:

1. Name and location of the HMA plant.
2. Project title.
3. Load time and date.
4. Truck number.
5. Mix designation.
6. Plant lot number.
7. Tare, gross, and net weight.

E. Spreading and Grading.
THE THIRD PARAGRAPH IS CHANGED TO:

J. Ride Quality Requirements.
THE FIRST PARAGRAPH IS CHANGED TO:

The Department will evaluate the HMA surface course using the International Roughness Index (IRI) according to ASTM E 1926. The Department will use the measured IRI to compute the appropriate pay adjustment (PA). The PA may be positive for superior quality work or negative for defective work. The Department may exclude certain area as specified in the Special Provisions.

SUBPART 3 OF SECOND PARAGRAPH IS CHANGED TO:

3. **Preparation for IRI Testing.** Provide the necessary traffic control when the Department performs IRI testing. Perform required mechanical sweeping of the surface course before IRI testing. To facilitate auto triggering on laser profilers, place a single line of preformed traffic marking tape perpendicular to the roadway baseline 300 feet before the beginning of each lane, shoulder, and ramp to be tested. Submit the actual stationing for each traffic marking tape location to the RE.

4. **Acceptance.**

   a. **Pay Adjustment.**

THE FOLLOWING IS ADDED:

Route	Type	Number of Lift	Mile Post	
			From	To
U.S. 46 EB	Highways Other Than Freeways/Limited Access	1	53.71	54.11
U.S. 46 WB	Highways Other Than Freeways/Limited Access	1	53.78	54.07
U.S. 46 EB Auxiliary Lane	Highways Other Than Freeways/Limited Access	4	53.71	54.11
U.S. 46 WB Auxiliary Lane	Highways Other Than Freeways/Limited Access	4	53.78	54.07
U.S. 46 EB	Shoulders	1	53.64	54.11
U.S. 46 WB	Shoulders	1	53.73	54.11
Hollywood Avenue (County Route 625	Other Roadways	1	1.82	2.12
Hollywood Avenue (County Route 625	Shoulders	1	1.82	2.12
Ramps A, B, C, and D	Ramps	4		

401.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

The Department will make a payment adjustment for HMA air void quality by the following formula:

Pay Adjustment = Q x BP x PPA

Where:
BP = Bid Price
Q= Air Void Lot Quantity
PPA= air void PPA as specified in 401.03.03H.

The Department will make a payment adjustment for HMA thickness quality by the following formula:

Pay Adjustment = Q x BP x PPA

Where:
BP = Bid Price
Q= Thickness Lot Quantity
PPA= thickness PPA as specified in 401.03.03I

The Department will make a payment adjustment for HMA ride quality, as specified in 401.03.03J.

DIVISION 500 – BRIDGES AND STRUCTURES

SECTION 506 – STRUCTURAL STEEL

506.03.01 Structural Steel

E. Installing High-Strength Steel Bolts.
THE SECOND PARAGRAPH IS CHANGED TO:

> Provide a Skidmore-Wilhelm calibrator or an acceptable equivalent tension-measuring device on the Project during erection. Ensure that the manufacturer's representative is present during the first full day of tensioning work to provide technical assistance. Verify each lot of DTIs using the Skidmore-Wilhelm calibrator as specified in NJDOT S-3.

PR= percent reduction as specified in Table 507.03.02-2

SECTION 513 – RETAINING WALLS

513.02 MATERIALS

513.02.01 Materials

THE FOLLOWING IS ADDED:

Deliver a 3-foot by 3-foot sample to the RE for approval. Ensure the concrete is both tinted and stained as shown on the plans. Ensure sample shows the pattern, color and texture of the architectural finish. Ensure the finished wall matches the sample.

DIVISION 550 – STRUCTURE REHABILITATION

SECTION 551 – BRIDGE DECK REHABILITATION

551.02 MATERIALS

551.02.01 Materials

THE FOLLOWING MATERIAL IS ADDED:

Strip Seal Expansion Joint Assembly 914.04.02

551.03 CONSTRUCTION

THE FOLLOWING SUBPART IS ADDED:

551.03.03 Deck Joint Reconstruction

Submit working drawings for certification for strip seal expansion joints as specified in 507.03.01.A.

Remove concrete on either side of joint as specified in 551.03.01. Clean and splice reinforcement steel as specified in 551.03.01.C. Install strip seal expansion joints as specified in 507.03.01.B. Place quick setting patch material as specified in 551.03.01.D.2.

551.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
DECK JOINT RECONSTRUCTION	LINEAR FOOT

DIVISION 600 – MISCELLANEOUS CONSTRUCTION

SECTION 601 – PIPE

601.02 MATERIALS

THE FOLLOWING MATERIAL IS ADDED:

Ductile Iron Pipe 909.02.08

601.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
___" DUCTILE IRON PIPE	LINEAR FOOT

SECTION 602 – DRAINAGE STRUCTURES

602.01 DESCRIPTION
The following is added to the first paragraph:
This section also describes the requirements for constructing water quality treatment structures.

602.02 MATERIALS

602.02.01 Materials

THE FOLLOWING MATERIALS ARE ADDED:

Water quality treatment structure 904.05
Pipe Segments 601.02
Grout 908.08.02
Aluminum Components 911.01.01

602.03 CONSTRUCTION

602.03.01 Culverts and Headwalls

THE FOLLOWING IS ADDED:

Construct trash racks on concrete headers where shown on the plans.

At least 30 days before beginning work, submit working drawings for trash racks for certification.

Weld and fabricate aluminum members for trash rack according to ANSI/AWS D1.2 Structural Welding Code – Aluminum. Do not flame cut aluminum alloy materials.

THE FOLLOWING SUBPART IS ADDED:

602.03.09 Water Quality Treatment Structure

Excavate as specified in 202.03.03. Shape and compact the underlying material to produce a firm, even surface. Set the concrete base unit of the water quality treatment structure on a 6-inch bed of compacted coarse aggregate. Ensure the coarse aggregate layer is level prior to setting the precast base section. After setting the precast base unit, ensure that it is level. If the slope from any corner to any other corner exceeds 0.5 percent, remove the base unit and re-level the coarse aggregate layer.

Place the inflow and outflow pipe segments in the pipe openings.

Apply butyl mastic sealant to all joints just prior to setting subsequent sections. Seal the space between the pipe and the pipe opening with hydraulic cement. Bolt the circular swirl chamber to the side walls at the 3 tangent points as recommended by the manufacturer. Seal the bottom edges of the swirl chamber and side walls at the tangent points with butyl mastic sealant as recommended by the manufacturer.

Prior to setting the precast roof section, place butyl mastic sealant along the top of the underflow baffle wall, using more than one layer of mastic, to obtain a minimum thickness of one inch greater than the nominal gap between the top of the baffle and the roof section. Determine the nominal gap by field measurements or working drawings. Ensure the construction of the flow controls are in conformance with the manufacturer's recommendations. After placement of the roof section has compressed the butyl mastic sealant in the gap, finish sealing the gap with approved non-shrink grout on both sides of the gap using the butyl mastic as a backing material to apply the grout. Apply non-shrink grout to the joints at the side edges of the baffle walls.

After setting the precast roof section of the water quality treatment structure, set precast concrete manhole riser sections or masonry, if required, to the height required to bring the manhole frame and cover to grade. Fill the outside joints with a comparatively dry mortar (one part cement and two parts sand) and finish flush with the adjoining surfaces. Ensure that precast sections are set in a manner that results in a watertight joint.

Plug holes in the concrete sections made for handling or other purposes with a non-shrink grout or by grout in combination with concrete plugs.

Where holes must be cut in the precast sections to accommodate pipes, do all cutting before setting the sections in place to prevent any subsequent jarring which may loosen mortar joints

Fill with water up to the lowest pipe invert and test for exfiltration. If there is any loss of water, the system is not watertight. Find and correct the leak.

Test the swirl chamber for leaks by adding water to that portion of the system outside the chamber to a level just below the lowest opening in the chamber. If water flows into the swirl chamber, Find the leak and correct it in conformance with the manufacturer's recommendations. If leaks appear on the outside of the system, clean and caulk the inside joints in conformance with the manufacturer's recommendations.

602.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
WATER QUALITY TREATMENT STRUCTURE NO. ___	UNIT

THE FOLLOWING IS ADDED:

The Department will make payment for inlet and outlet pipes as specified in 601.04.

SECTION 605 – FENCE

605.02 MATERIALS

THE FOLLOWING MATERIAL IS ADDED:

Vinyl Fence 913.02.04

605.03 CONSTRUCTION

605.03.03 Repairing Chain-Link Fence

THE FOLLOWING IS ADDED:

Remove existing fence fabric and provide and erect new fabric on the north side of the Hollywood Avenue Bridge over Route 46.

THE FOLLOWING SUBPART IS ADDED:

605.03.04 Vinyl Fence

Before constructing or placing fence, clear the site as specified in 201.03.01. Remove rock protruding above the ground surface in the fence line.

Set terminal posts at the beginning and end of each continuous length of fence, at abrupt changes in vertical and horizontal alignments. Set posts in concrete. Dig or drill holes for concrete. Place concrete as specified in 504.03.02.D and allow concrete to cure for at least 72 hours before installing the rails and pickets.

Install vinyl fence conforming to plans and manufacturer's recommendations.

605.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Item*
VINYL FENCE (DESCRIPTION)	LINEAR FOOT

SECTION 607 – CURB

607.02 MATERIALS
THE FOLLOWING MATERIAL IS ADDED:

Belgian Block Curb 910.04

607.03 CONSTRUCTION
THE FOLLOWING SUBPART IS ADDED:

607.03.08 Belgian Block Curb

Excavate as specified in 202.03.03. Shape and compact the underlying material to produce a firm, even surface. Obtain RE approval before finishing excavation. If the RE determines that the bottom of the excavation is unstable, undercut, backfill and compact as directed by the RE.

Place footing concrete according to the limitations specified in 504.03.02.C. Consolidate the concrete by hand spading or using internal mechanical vibrators.

Set Belgian block curb in concrete ensuring that the top surface is at the required grade. Ensure that joints are 3/4 inch or less wide. Clean joints prior to mortaring. Point the joints using mortar.

Backfill and compact using the directed method, as specified in 203.03.02.C, against the curb.

607.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
BELGIAN BLOCK CURB	LINEAR FOOT

DIVISION 650 – UTILITIES

SECTION 651 – WATER

651.01 DESCRIPTION

THE FOLLOWING IS ADDED:

Work for Township of Fairfield shall conform to the following:

A. Instruction to Bidders

Definitions of Terms

Wherever used in these Specifications, the following definitions shall apply:

1. The word "Company" is used to designate the Township of Fairfield, incorporated and operating under the laws of the State of New Jersey, or its duly authorized representatives for whom the work hereinafter described is to be performed.
2. The word "Township of Fairfield Engineer" refers to the Director of Engineering of Township of Fairfield and shall extend to and include any Engineer or inspector whom he may designate to act in the premises.
3. Whenever the words "directed", "permitted", or words of like import are used, it shall be understood that the direction, requirement, or permission of the Township of Fairfield Engineer is intended, and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean approved by or acceptable to satisfactory to the Township of Fairfield Engineer.

B. General

Work to be done.

These specifications, together with drawings, provide information to enable Contractors to submit bids for furnishing material, labor, tools, plant, and equipment to design and install ductile iron pipe, valves, fittings, and tie-in connections to relocate existing water mains for Township of Fairfield as required by the construction activities at New Jersey Department of Transportation Route 46 and Hollywood Avenue Intersection Improvements in Township of Fairfield, County of Essex. This work also includes cutting, plugging, and abandoning the relocated portion of the existing main.

Equivalent Materials and Substitutions.

Where a specific manufacturer or product has been specified with the term "or approved equal", a product of equal or greater value may be substituted upon written approval of the Township of Fairfield Engineer. If a product other than the specified item is proposed, indicate and submit shop drawings of all proposed substitutes with the proposal. Prove to the Township of Fairfield Engineer the equivalency of a product. The Township of Fairfield Engineer is the sole judge of acceptability of items to be considered as "approved equals".

Assignment of Contract

Do not assign, transfer or sublet of any part of the water main installation to any Contractor other than those that have been pre-qualified by Township of Fairfield.

C. Shutdowns

Service shutdowns shall be limited to the installation of connections between new and existing mains.

Assure that existing water mains remain in service at all times until the new mains are tested, approved and placed in service, unless pre-approved by the Township of Fairfield Engineer. Abandon existing water mains in place and only removed where conflict with the proposed construction occurs. Abandon existing water mains after all services have been transferred to the new water main, if applicable.

Change customers that are currently connected to a water main that will be relocated over to the relocated water main prior to the abandonment of the existing water main.

651.02 MATERIALS

THE FOLLOWING IS ADDED:

Materials for Township of Fairfield shall conform to the following:

A. Ductile Iron Pipe. Use Ductile iron water pipe that is new, of standard manufacture, and of the highest quality as to material and workmanship. Materials supplied shall conform to the latest edition of the following standards:

1. Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water: ANSI/AWWA C104/A21.4, latest edition.
2. Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fitting: ANSI/AWWA C111/A21.11, latest edition.
3. Thickness Design of Ductile-Iron Pipe: ANSI/AWWA C153/A21.15, latest edition.
4. Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids: ANSI/AWWA C151/A21.51, latest edition.
5. Polyethylene Encasement for Ductile Iron Piping for Water and Other Liquids: ANSI/AWWA C105/A21.51, latest edition.
6. AWWA C600, Standard for the Installation of Ductile Iron Water Mains and Their Appurtenances.
7. AWWA C651, Standard for Disinfecting Water Mains.

Ensure that all pipe is centrifugally cast cement lined, and includes bituminous sealcoat. Ensure all pipes receive an exterior foundry coal tar dip coating in accordance with AWWA C151-86; ensure manufacture meets EPA approval. Each pipe and fitting shall be encased in a polyethylene sheet or tube in accordance with the standard noted above.

Ensure Ductile Iron Pipe is Class 53.

Ensure Polyethylene film is 4-mil thick cross-laminated high-density polyethylene film as per Section 4 of AWWA Standard C105 as manufactured by Valeron or approved equal.

B. Joint System.

Ensure push-on type joint is “Tyton Joint”, “Fastite Joint” or “Super Bell-Tite” as manufactured by United States Pipe & Foundry Company, Griffin Pipe Products Co., American Ductile Iron Pipe Company or approved equal.

Ensure restrained type joint system is “TR Flex” ductile iron boltless system as manufactured by United States Pipe & Foundry. Additional restraint is required if thrust is created due to horizontal and/or vertical adjustment to the pipeline due to field conditions. Ensure restrained joints conform to the AWWA specifications previously referenced. Design the pipe, fittings, and restrained joints for a trench test pressure of 200 psi maintained for a 2-hour duration.

Do not make any restrained joint field cuts without the approval of the Township of Fairfield Engineer. In the event that both the Township of Fairfield Engineer and the Contractor deem such a cut necessary, ensure the restrained joint system is “TR Flex Gripper Rings” with “TR Flex Field Cut Pipe” as manufactured as manufactured by United States Pipe & Foundry Company.

C. Ductile Iron Fittings. Ensure ductile iron fittings are new, of standard manufacture and of the highest quality as to material and workmanship. The fittings supplied must be ductile iron. Ensure materials supplied meet the latest edition of the following standards:

1. Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water: ANSI/AWWA C104/A21.4, latest edition.
2. Ductile-Iron and Gray Iron Fittings, 3” through 48” for Water and other Liquids: ANSI/AWWA C110/A21.11, latest edition.
3. Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fitting: ANSI/AWWA C111/A21.11, latest edition.
4. Ductile-Iron Compact Fittings, 3” through 16”, for Water and Other Liquids: ANSI/AWWA C153/A21.53, latest edition.
5. ASTM B418, latest edition, Standard Specification for Cast and Wrought Galvanic Zinc Anodes.

Ensure all fittings are centrifugally cast cement lined, and include a bituminous sealcoat. Ensure all fittings receive an exterior foundry coal tar dip coating in accordance with AWWA C151-86; manufacture shall meet EPA approval. Ensure all fittings are compact ductile iron class 350.

Supply all fittings with accessories (bolts, gaskets, and glands). Ensure all fittings are mechanical joint, restrained with wedge action retaining glands, and provided with zinc caps on the end of all bolts and mechanical joint glands. Ensure wedge action retaining glands are a restraint device consisting of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.

a.) Ensure the devices have a working pressure rating of 350 psi for 3-16 inch and 250 psi for 18-48 inch.
b.) Ensure gland body, wedges and wedge actuating components are cast from ductile iron material in accordance with ASTM A536.
c.) Ensure mechanical joint restraint devices are Mega-Lug Series 1100 as manufactured by EBAA Iron, Uni-Flange Series 1400 as manufactured by Ford Meter Box, or equal.

Boltless restrained joint fittings may be provided as an alternative to mechanical joint fittings. The same manufacturer as the manufacturer of the pipe shall provide boltless restrained joint fittings. Ensure zinc caps are as manufactured by Trumball Industries, Inc., the Mars Company, or approved equal.

D. Valves. Ensure all valves are of standard manufacture and of the highest quality as to material and workmanship. Submit for approval full data for valves to be furnished including dimension drawings showing details of construction and complete specifications. Ensure flanges, where required, are firmly bolted with A304 stainless steel bolts and nuts. Ensure gaskets are full-faced neoprene. Ensure the valves supplied meet the latest edition of general AWWA standards and specifically the following specifications:

1. Gate Valves for Water and Sewerage Systems: ANSI/AWWA C500, latest edition.
2. ANSI/AWWA C504, latest edition, Rubber-Seated Butterfly Valves.
3. ANSI/AWWA C509, latest edition, Resilient-Seated Gate Valves for Water and Sewerage Systems.
4. Ensure all valves include accessories (bolts, glands, and gaskets). Ensure all valves open left (counter clockwise) with an arrow showing the direction of opening and the word "OPEN". Ensure all valves are resilient seated and non-rising stem design. Ensure all valves have 2-inch square operating nut. Ensure valves are rated for operating pressure of 200 psi and test pressure of 400 psi.
5. Furnish all gate and butterfly valves with mechanical joint ends, with each side of the valve provided with wedge action retaining glands. Ensure wedge action retaining glands are as specified under "Ductile Iron Fittings".
6. Ensure gate valves are as manufactured by the Mueller Company.
7. Ensure butterfly valves are as manufactured by M&H Valve Company, Kennedy Valve Company, or approved equal.
8. Ensure tapping valves are catalog T2360 as manufactured by Mueller Company or approved equal. Ensure pressure rating is 350 psi minimum.
9. Ensure sleeves conform to Ductile Iron ASTM A536.
10. Provide extension stems for gate and butterfly valves whenever the operating nut of the valve is located six feet or greater below finished grade, and bring the operating nut to within a depth of four feet from finished grade. Ensure extension stems are of stainless steel. Ensure the lower end of the stem is fitted with a socket to fit over the valve-operating nut. Ensure the upper end is fitted with a 2-inch square-operating nut. Attach the socket and nut to the extension stem and socket to the valve nut with stainless steel pins. Set screws are not acceptable. At the top and mid-point of the stem, provide a centering device to keep the stem centered in the valve box, while allowing it to turn freely.

E. Valve Boxes. Ensure valve boxes are Series 4903, 4905 or 500 as manufactured by Bingham &Taylor, Series 6850 or 6850 as manufactured by Tyler/Union, or approved equal and shall be sliding type. Provide each buried valve with a cast iron two-piece, slide type valve box. Ensure valve boxes have 5-1/4" shaft with a round base and are provided with extra deep covers with the word "WATER" cast on and an arrow indicating the direction of opening.

Ensure the length of valve boxes and size of base suit each particular installation and have approximately 8" of adjustment up or down available after setting grade.

F. Copper Tubing, Corporation Stops and Curb Stops. Ensure Corporation Stops are 1-inch and are ground key design stop as manufactured by the Mueller Company Model H-15000 or approved equal. Ensure 1 1/2-inch and 2-inch stops are Ori-Corp corporation valve as manufactured by the Mueller Company or approved equal. Ensure inlet is ANSI/AWWA C800 thread. Ensure outlet is Copper flare nut (STD); or compression for CTS O.D. tubing (COMP or COMPR); or F.I.P. thread (IP). **Ensure** curb stops are Mueller Company Model H-15204. Ensure curb Box is Mueller Company Model H-10314.

Ensure material for 1-inch, 1 ½-inch and 2-inch service pipes are Type K copper tubing. Ensure material for 3-inch and larger is ductile iron pipe.

Ensure the minimum size for all Service Pipe and changeover installations is 1-inch in diameter. Where tie in to 3/4-inch existing pipe is necessary, Install 1-inch pipe to the nearest practical point of the connection. Use transition fitting at this connection to make up the necessary transition of sizes.

G. Fire Hydrants. Ensure fire hydrants are Mueller Super Centurion A-421 Dry barrel, National Standard Thread, 200 psi working pressure, two 2 1/2-inch Hose Nozzle, one 4-inch Pumper Nozzle and open left. Haul removed/abandoned hydrants from the project site to the Township of Fairfield's yard.

651.03 CONSTRUCTION

651.03.08 Water As-Built Plan

THE FOLLOWING IS ADDED:

Submit scaled as-built drawings for each project showing the location of all pipe, valves, and other appurtenances installed in both plan and profile to the satisfaction of Township of Fairfield on forms supplied by Township of Fairfield. Include on the as-built drawings location ties for all valves, curb stops, and service valves triangulated to permanent referenced objects and offset distances to street curb line. Designate all fittings, valves, service tees, and appurtenances by station numbers (i.e., 0+00) as laid out on the Construction Plans. Show the location of all underground facilities encountered during construction. The Contractor may mark up the design plans that were prepared by the NJDOT prior to construction.

Ensure the drawings are accurate, neat, legible, and complete in a form acceptable by Township of Fairfield

Include the following on the completed forms:

- Description noting the physical location of the work clearly identified with street, and distance from nearest cross street relative to magnetic north.
- The depth to the top of the water main, valve, or service.
- The date the work was completed.
- A sketch of the work showing fittings, valves, and pipe with dimensions and three ties (within fifty feet of the work) to existing structures such as manholes, poles, or catch basins.

Submit as-built documentation within fourteen (14) days of the completion of work performed.

THE FOLLOWING IS ADDED:

651.03.09 Township of Fairfield Water Main

A. General.

1. All materials shall be installed as per the manufacturers' recommendations, the American Water Works Association (AWWA), and the Ductile Iron Pipe Research Association's (DIPRA) recommendations.
2. The Contractor shall be responsible for the disposal of all chlorinated water and conformance to all regulations governing this disposal.
3. Pipe, fittings, valves, and other accessories shall, unless otherwise directed by the Engineer, be transported to the site of the project by the Contractor and shall, at all times, be handled with care to avoid damage. Damage includes contamination of the material caused through contact with harmful substances. In loading and unloading, material shall be lifted by hoists or slid, or rolled on skidways in such manner as to avoid shock. Under no circumstances shall material be dropped. Pipe shall be transported in a horizontal position and supported properly so that the weight of the pipe does not rest on either the bell or spigot. In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench. Pipe shall be placed on the site of the work parallel with the trench alignment and with bell ends facing the direction in which the work will proceed, unless otherwise directed. The interior of all pipe, fittings, and other accessories shall be kept free from dirt and foreign matter at all times.
4. Valve boxes shall be firmly supported and maintained, centered and plumb over the wrench nut of the gate valves, with box cover flush with the surface of the finished pavement or at such other level as may be directed. All valves and fittings shall be properly jointed and restrained. All valves and valve boxes shall be hauled, set and jointed to the pipe in accordance with the Standard Specifications of the

manufacturer and the American Water Works Association insofar as they apply and as directed by the Township of Fairfield Engineer.

5. Tapping of water mains and associated connection work shall be carried out only by personnel experienced in this type of work.
6. The Contractor is not permitted to operate any valves within the Township of Fairfield system. Township of Fairfield Engineer personnel will operate any and all valves required for the prosecution of the work.
7. Existing mains are to remain in service at all times until new mains are tested, approved, and placed in service unless pre-approved by the Township of Fairfield.
8. Existing water main shall be abandoned in place and only removed where conflict with proposed construction occurs.
9. Existing water mains will be abandoned after all services have been transferred to the new water main, if applicable.
10. Line stop sleeves will remain a part of the water main and left in place after its use.
11. Contractor agrees to not use or operate any hydrants within the Township of Fairfield (Township of Fairfield Engineer) system. If water is needed, the Contractor may go to Township of Fairfield Engineer's office (973-882-2725) at 230 Fairfield Road Fairfield, NJ.

B. Special Conditions.

Maintaining Water Services. It is essential that service is maintained at all times in the existing mains until the new mains have been installed, tested, and approved for service. Refer to Section 622.03.C for required sequence of relocation and main abandonment.

Inspection. All work to be done, including excavation, backfilling, pipe laying, etc., will be subject to inspection by Township of Fairfield. Contractor shall perform all work in accordance with the terms of the Contract Documents. If any work is done and later found to be inferior or defective, regardless of the inspection by the Township of Fairfield, the inferior or defective work shall be corrected by, and at the expense of, the Contractor. It will be the Contractor's responsibility to notify Township of Fairfield in advance of work so that the Company can provide adequate inspection.

Schedule of Work. Township of Fairfield requires a project schedule prepared on 8.5"x11" paper with the following categories at a minimum:

1. Notice to Proceed
2. Preconstruction Meeting
3. Shop Drawing Review
4. Mobilization
5. Construction
6. Pressure Testing
7. Disinfection
8. Bacteria Testing

The schedule shall be prepared for discussion at the preconstruction meeting. Notification of working hours must be made 10 working days prior to mobilization so that Township of Fairfield can schedule inspection accordingly. The Contractor must immediately notify the Company of any Changes to this schedule.

Emergency Contacts. The Contractor must provide Township of Fairfield with an emergency phone number where the Contractor can be reached at all times. This phone number must be maintained during the entire construction period.

Shop Drawings/Catalogs and Submittals. Full data pertaining to the materials, including complete dimension drawings showing details of construction, operation (where applicable) and installation requirements, shall be submitted for approval by the Township of Fairfield Engineer. A detailed laying schedule referenced by station designation showing all fittings, valves, type of pipe, and proposed restraint shall be prepared and submitted for approval prior to ordering material.

At a minimum, the Contractor shall submit three (3) copies of the full data for review and approval on the following items:

1. Pipe
2. Pipe Laying Schedule
3. Fittings
4. All Valves

5. Tapping Sleeves and Valves
6. Backfill
7. Project Schedule
8. Pressure Testing and Disinfection Plan
9. Casing Pipe certification
10. Copper tubing, corporations and curb stops.

Laying Schedule. All fittings shall be provided with restraint joints. A pipe-laying schedule showing all pipe, valves, fittings, and restrained lengths must be approved prior to ordering material.

Hydrostatic Test and Disinfection Plan. A hydrostatic test and disinfection plan must be submitted to Township of Fairfield for approval 2 weeks prior to filling the main. The existing main will not be retired until this work is completed. The Contractor will not operate any Township of Fairfield valves. All work must be coordinated with Township of Fairfield.

Lines and Grades. The Contractor shall provide pipe, fittings, and thrust restraint as required to maintain an alignment where depth of cover shall be no less than 4 feet and no greater than 5 feet, unless otherwise shown on the Drawings. The Township of Fairfield Engineer shall approve any deviation from this. It shall be the Contractor's responsibility to assure that the water main receives adequate depth of cover and does not conflict with any existing or proposed utilities or structures. Pipe joints may be deflected in strict accordance with the manufacturer's recommendations.

Air Release. The Contractor shall provide 1" corporations at extremities of the main, at each side of main line valves, and wherever else necessary for bleeding, flushing, pressure testing, and disinfecting the water main. The Contractor shall provide as many corporations as are required for proper testing, flushing, bleeding, and disinfecting at no additional cost other than the unit prices bid for ductile iron pipe. Only those corporations, which are required for the transfer of customer service lines, will be paid under the unit price for corporations. Corporations, which are not required for customer services, shall be closed upon placement of the main into service.

Disconnect Existing Mains. The exact location of the cuts and plugs on the existing mains, shall determined based on final project design, actual field location of the existing mains, and approval by Township of Fairfield.

Defective Work. All exposed pipe, fittings, valves, and joints will be carefully examined. All joints as may be defective shall be removed and replaced at the Contractor's expense, as directed by the Township of Fairfield Engineer. Any cracked or defective pipes, fittings, valves, or accessories discovered in consequence with the pressure test, shall be removed and replaced by the Contractor with sound material and the test shall be repeated until satisfactory to the Township of Fairfield Engineer,

Should any test of pipe laid disclose leakage per mile of pipe greater then specified above, or if individual sections of pipe show leakage greater than the applicable specified limits, the Contractor shall, at his own expense, locate and repair the defective joints or pipe until the leakage is within the specified allowance.

C. Sequence of Relocation and Abandonment

Relocation of the existing water mains will require close cooperation between the Contractor and the Township of Fairfield. Well before the start of water main relocation work, the Contractor will be expected to meet with the Township of Fairfield to present the plan and schedule for the work, and to discuss in detail the water main shutdowns to be performed.

1. UODACL No. 1: Route 46WB Sta. 116+80 to Sta. 121+50 install 12" tapping sleeve and valve at Sta. 116+80 and Sta. 121+50 and construct 12" DICL water main. Install 8" tapping sleeve and valve and construct 8" DICL water main and fire hydrant assembly. After satisfactory testing and acceptance by the Township of Fairfield install 12 " insertion valve at Sta. 116+85and Sta. 121+47 and 1-8" insertion valve. Cut, cap and abandon existing water
2. UODACL No. 2: Route 46 EB Sta. 112+65 to Sta. 121+35 install 12" tapping sleeve and valve at Sta. 112+65 and Sta. 121+35 and construct 12" DICL water main. After satisfactory testing and acceptance by the Township of Fairfield install 12 " insertion valve at Sta. 112+70 and Sta. 121+30. Cut, cap and abandon existing water main.
3. UODACL No. 3: Hollywood Ave. Sta. 3+60 to Sta. 5+50 install 14" tapping sleeve and valve diameter and construct 14" DICL water main. Install fire hydrant assembly. Install 8" tapping sleeve and valve and construct 8" DICL water main and connect to new 14" DICL water main.

4. UODACL No. 3: Route 46 EB Sta. 111+30 Sta., 115+70 and Route 46 WB Sta. 124+20 relocate fire hydrants.
5. UODACL No. 5: Route 46 and Hollywood Avenue project limits reset water valve box to proposed grade

Schedule: 1 through 5 Included in Contractors' overall construction operations of the project.

Note: There will be no shot down of existing water facilities without Township of Fairfield's approval. No water shutdown will be permitted from Memorial Day to Labor Day without the approval of by Township of Fairfield

D. Furnishing and Installing Water Mains.

General. Work shall include the purchase, installation, and testing of ductile iron water main and appurtenances.

All pipes shall be of standard manufacturer and of the highest quality as to material and workmanship. All pipes shall be supplied in average 18 feet or 20 feet length. The manufacturer shall specify the average length of each piece of pipe supplied. The Contractor shall furnish, lay, joint, test, and sterilize water mains as required by the Route 46 at Hollywood Avenue Construction.

The work shall include all material, excavation, backfill, compaction, removal and disposal of excavated material to an approved off-site location, sheeting, bracing, dewatering, installation, thrust restraint, testing, and additional work as may be noted on the Contract Drawings.

Length of restraint shall be as shown on the schedule included with the project details. Restraint shall be provided by boltless restrained joint pipe and wedge action retaining glands at fittings and valves. Additionally, where shown on the drawings, concrete thrust blocks at fittings shall also be constructed.

Handling Pipe and Accessories. The Contractor shall unless otherwise directed, distribute pipe, fittings, valves, and other accessories at the site of the project. They shall, at all times, be handled with care to avoid damage. In loading and unloading, they shall be lifted by hoists or slid, or rolled on skidways in such manner as to avoid shock. Under no circumstances shall they be dropped; pipe handled on skidways must not be skidded or rolled against pipe already on the ground.

All pipe, fittings, valves, and accessories shall be carefully lowered into the trench piece by piece by means of derrick, ropes, or other suitable tools or equipment, in such manner as to prevent damage to pipe. Under no circumstances shall pipe or accessories be dropped or dumped into the trench. All foreign matter or dirt shall be removed from the inside of the pipe before it is lowered into its position in the trench and it shall be kept clean by approved means during and after laying.

Installation. The Contractor shall remove pavement where necessary; excavate the trenches and pits to the required dimensions; construct and maintain all bridges required for traffic control; sheet, brace, and support the adjoining ground or structures where necessary; safely dewater the excavation from drainage or groundwater, guard the site; unload, haul, distribute, lay and test the pipe, specials, blow-offs, valves and accessories, replace all damaged drains or other structures; backfill and tamp the trench and pits, remove surplus excavated material and clean the site of the work as the job progresses.

If, during the course of the work, unforeseen conditions arise, the location of the pipeline may be changed to meet such conditions as directed by the Township of Fairfield Engineer.

In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench. Pipe shall be placed on the site of the work parallel with the trench alignment and with bell ends facing the direction in which the work will proceed, unless otherwise directed. The interior of all pipe, fittings, and other accessories shall be kept free from dirt and foreign matter at all times.

Alignment and Grade. The drawings show the general location of the pipeline. It shall be the Contractor's responsibility to verify the exact location of the existing pipeline and to lay out the proposed relocation plan. The water main shall have no less than 4 feet of cover and no greater than 5 feet of cover unless otherwise shown on the Drawings, and the water main shall be installed within the NJDOT right of way or easements.

All pipes shall be laid and maintained to the required lines and grades; with fittings, valves, and accessories at the required locations, and with joints centered and spigots home.

The trench shall be dug to the alignment and depth required and only so far in advance of pipe laying as the Township of Fairfield Engineer shall permit. The trench shall be so braced and drained that workmen may work therein and efficiently. The Contractor shall install any means of dewatering as may be required to provide a dry trench. The discharge from pumps shall be led to natural drainage channels.

Excavation and Preparation of Trench. The trench width may vary with and depend upon the depth of the trench, and the nature of the excavated material encountered; but in any case shall be ample width to permit the

pipe to be laid and jointed properly and the backfill to be placed and compacted properly. The minimum width of unsheeted trench shall be at least 15" greater than the nominal diameter of the pipe in order to provide a clearance of 6" on each side of the pipe except by consent of the Township of Fairfield Engineer. The maximum clear width of trench shall not be more than 30" greater than the nominal diameter of the pipe.

The trench, unless otherwise specified, shall have a flat bottom conforming to the grade to which the pipe is to be laid. The pipe shall be laid with the aid of grade boards upon sound soil cut true and even, so that the barrel of the pipe will have a bearing for its full length. Any part of the trench excavated below grade by the Contractor's inadvertence or where, in the opinion of the Township of Fairfield Engineer, it cannot support the pipe, a further depth and/or width shall be excavated and refilled to pipe foundation grade as required above, or other approved means shall be adopted to assure a firm foundation for the pipe with extra compensation allowed thereof. Ledge rock, boulders, and large stones shall be removed to provide a clearance of at least 6" below all parts of the pipe, valves or fittings and to a clear width of 6" on each side of all pipe and appurtenances. Excavations below subgrade in rock or in boulders shall be refilled to subgrade with approved material, thoroughly compacted.

Wherever necessary to prevent caving, excavations in sand, gravel, sandy soil, or other unstable material shall be adequately sheeted or braced. Where sheeting and bracing is used, the trench width shall be increased accordingly. Trench sheeting shall remain in place until the pipe has been laid, tested for defects and repaired, if necessary, and the earth around it compacted to a depth of two feet over the top of the pipe. The use of trench-digging machinery will be permitted except in places where operation of same will cause damage to the existing property, in which case hand methods shall be employed.

Excavations for pipe laying operations shall be conducted in a manner to cause the least interruption to traffic. Where traffic must cross open trenches, the Contractor shall provide suitable bridges. Public Utility Controls of all kinds shall be left unobstructed and accessible during the construction period.

The Contractor, during the entire prosecution of the work, will be responsible for all open excavations, and, as a means of protection, shall keep warning lights or flares burning from sunset to sunrise, such lights to be placed at proper intervals on any open excavation. As a further means of protection, the Contractor shall display warning and danger signs on all open excavations or other locations where there is a chance of injury to the public. The Contractor must supply all site protection devices as a part of the unit prices quoted on the bid document. The Contractor is to assume full responsibility for any damage to persons or property that may be occasioned by or result from the performance of the work from the date of the contract until final payment for the work is made.

Protection of existing utilities and/or structures shall be made at all times during the work. The Contractor shall be responsible for this protection and assume full responsibility for any damage that may be occasioned by or the result from the performance of the work. The Contractor shall protect and restore existing utilities, structures, and facilities where no definite physical interference exists, or where the interference is avoidable.

Adequate provision shall be made for the flow of watercourses encountered during construction, and structures, which may have been disturbed, shall be satisfactorily restored upon completion of the work. Where surface or groundwater follows the trench after the pipe is laid, suitable drains shall be installed alongside of pipe to carry and divert the water.

Trees, fences, poles, and all other property shall be protected unless their removal is authorized; and the Contractor shall satisfactorily restore any property removed or damaged.

Pipe Laying. Proper implements, tools, and facilities satisfactory to the Township of Fairfield Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, fittings, valves, and accessories shall be carefully lowered into the trench by means of derrick, ropes, or other suitable tools or equipment, in such manner as to prevent damage to pipe. Under no circumstances shall pipe or accessories be dropped or dumped into the trench. All foreign matter or dirt shall be removed from the inside of the pipe before it is lowered into its position in the trench and it shall be closed by means of a night cap and no trench water shall be permitted to enter the pipe. Unless otherwise directed by the Township of Fairfield Engineer, pipe shall be laid with bell ends facing in the direction of lying.

The nightcap shall be a solid, watertight cap consisting of a ductile iron cap or equivalent approved by the Township of Fairfield Engineer. The cap shall be provided by the Contractor and used whenever pipe installation is stopped for a period of time (including lunch breaks and at night). The cap shall be securely attached to the new pipe to prevent contamination of or the intrusion of any liquid or foreign material to the newly installed pipe.

Whenever necessary to deflect pipe from a straight line, in the vertical or horizontal plane to avoid obstructions, to plumb stems, or where long radius curves are permitted, the degree of deflection shall be approved by the Township of Fairfield.

No pipe shall be laid in water, or when the trench conditions or the weather are unsuitable for such work, except by permission of the Township of Fairfield Engineer. Wherever groundwater arises in the trench, well points shall be

used to insure proper installation of pipe. Whenever the pipe crosses over private property, all topsoil shall be kept separately and used to restore property to its original fertility and condition.

At the end of each day's work, the newly installed main shall be internally inspected and all debris, soil, sediment, and freestanding water squeegeed from the main.

Pipe Bedding. In all cases, pipe shall be bedded for the width of the trench to 6 inches above the top of the pipe in compacted ¾ inch Quarry Process Stone. A minimum of 6 inches of compacted ¾" quarry stone shall be placed prior to the installation of the pipe. It shall be deposited in the trench in 6-inch layers simultaneously on both sides of the pipe, for the full width and depth of the trench. These layers shall be mechanically tamped and compacted to 95 percent of Standard Proctor Density under and on each side of the pipe to provide solid backing against the external surface of the pipe. Water service connections shall be bedded in sand to a depth of 18" above the pipe and 6" below the pipe.

E. Furnishing and Installing Ductile Iron Fittings.

General. Work shall include all material, labor, excavation, shoring, dewatering, backfill and thrust restraint required to furnish and install all fittings as field conditions require and as specified below.

Installation. These items shall be hauled, set and jointed to the pipe in accordance with the Standard Specifications of the manufacturer and the American Water Works Association insofar as they apply and as directed by the Township of Fairfield Engineer.

As a minimum, the last 12" of the outside of the spigot piece and the inside of the bell shall be thoroughly cleaned to remove oil, grit, tar (other than the standard coating), and all foreign materials from the joint, and then painted with a manufacturer's approved lubricant and placed on the spigot end.

The joint shall then be assembled in accordance with the manufacturer's instructions. Joints shall only be deflected after the joint has been assembled and shall be in accordance with the manufacturer's recommendations.

Reaction of thrust backing shall be applied on all tees, plugs, caps, and at bends deflecting 5 degrees or more, or movement shall be prevented using restrained joint piping or thrust backing as specified herein.

Reaction or thrust backing shall be of concrete of a mix not leaner than 1 cement, 2-1/2 sand, 5 stone, having compressive strength of not less than 2,000 psi. Backing shall be placed between solid ground and the fittings to be anchored; the area of bearing on pipe and on ground in each instance shall be that required by Township of Fairfield Engineer. The backing shall, unless otherwise directed, be so placed that the pipe and fitting joints will be accessible for repair.

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F. Connection to Existing Mains.

General. The Contractor shall provide all labor, material, excavation, shoring, dewatering, backfill, backfill compaction and thrust restraint necessary to disconnect the existing mains at the limits of construction, permanently abandon the existing main and associated existing service lines from the existing main to the curb box location, connect the new water mains, and turn the system into service.

The work detailed herein shall be completed only after the new mains have been installed and approved for service by Township of Fairfield to within 15 feet of the tie-in locations. Township of Fairfield must be notified and scheduled to perform the required valve operations at least 10 days prior to the work.

The existing water main shall be shut down for 8 hours to allow the Contractor to complete the connections to the new water main. The new main must be returned to service within this 8-hour period.

G. Installing Hydrants

Hydrants shall not be installed adjacent to guiderail end treatments. Hydrants which are located behind guiderail shall protrude 12-inches above the top of the guiderail.

Relocated hydrants shall be set plumb, with the steamer nozzle facing the roadway and the breakaway flange no higher than 6" from the top of the flange above finished grade, unless otherwise directed by the Engineer. Each hydrant shall be installed with a 6" branch and gate valve. The branch consists of the standard tee, valve, and all piping from the main to the hydrant. The hydrant, pipe, valve, and fittings shall be restrained using tie rods; concrete thrust blocking and/or retaining glands as directed by the Engineer.

A drainage pit, measuring 2 feet x 2 feet x 2 feet under and around the hydrant, and the drains shall be excavated and filled with 3/4" clean stone to a level 6" above the drains. The Contractor shall supply all excavation, hauling material, required select backfill material, backfill compaction, shoring, dewatering, thrust restraint, anchorage, all site restoration, and the removal and disposal of existing hydrants, for the installation of new hydrants as directed by the Engineer.

Upon the successful completion of the water main disinfection and water quality testing, all new fire hydrants shall be flow tested by the Contractor to determine available flow rates. This test shall be in accordance with AWWA

standards and the information shall be recorded on forms provided by the Township of Fairfield and submitted with the as built information. The Contractor will be responsible for performing the flow test under the supervision of the Township of Fairfield Engineer and to obtain the pitot reading to determine the hydrant's free flow.
All hydrants installed under this contract shall be field painted from the breakaway flange up in accordance with the Water Company's standards. All paint and brushes for the bonnet and hydrant body painting shall be supplied by the Water Company. The hydrant number shall be stenciled as designated by the Water Company using permanent black paint and stencil set. The hydrant bonnet shall be color coded based on the rate of flow obtained through the free flow test as follows:

H. Leakage and Hydrostatic Test.

The most rigid supervision will be required to insure absolute minimum leakage. The pipe installation will not be accepted until or unless the average leakage for the whole line or for any section of the line tested is within the allowable leakage as calculated by AWWA C-600. Additionally, no visible leakage will be acceptable regardless of its magnitude or volume.
All portions of the new water main will be pressure tested. The test pressure shall be 200 psi for duration of 2 hours. When a section of pipe as shown on the plans is ready for testing, the line shall be completely filled with water at a controlled slow rate, all air expelled, and a pressure and leakage test made. The specified test pressure, measured at the point of lowest point in the main, shall be applied by means of a pump connected to the pipe in a satisfactory manner. The Contractor shall bear the cost of water used to initially fill the main and conduct testing operations. The Contractor shall be responsible for expelling all air from high points in the lines by installing as many corporations as necessary. Location of the corporations shall be coordinated with the Township of Fairfield Engineer. All piping shall be tested prior to connection with the existing system. The Contractor shall furnish all labor, materials, and equipment for performing these tests in the presence of the Township of Fairfield Engineer, including calibrated pressure gauges, test bulkheads, filling, draining, and air release connections and valves, calibrated drum, and test pump.
The Contractor shall protect all open excavation by barricades or other approved means at all times. The duration of the pressure test shall be at least two hours. In the event that the section under test fails to meet allowable leakage, the Contractor shall make all necessary repairs and repeat the test. The test shall be repeated as many times as is necessary to the allowable leakage specified above.
The Contractor shall provide all material and labor necessary to perform this testing. A hydrostatic test report must be submitted. Both Township of Fairfield and the Contractor must certify that the test was performed in accordance with these specifications.

I. Disinfection.

Upon the successful completion of the pressure test all new water lines shall be flushed and disinfected using dosage 25mg/l in accordance with the recommendation of "Standard for Disinfecting Water Mains", AWWA C651, except as may be modified herein. The Contractor shall disinfect the relocated water main prior to connecting to the existing water main. Bulkheads for testing, filling, and flushing shall be installed within 20 feet of the connection at the limits of the relocation. Once this portion of main has been approved for service as outlined in this section, the Contractor shall connect to the existing water main.
All work, equipment, and material (chemicals) needed for disinfecting of the main shall be performed and supplied by the Contractor. The method of disinfection shall comply with AWWA standards and is subject to the approval of Township of Fairfield. The Contractor shall be responsible for furnishing and installing sufficient quantity of corporations for the addition of chlorine, at no additional cost. Township of Fairfield shall perform sampling and testing.
Newly laid water main shall not be accepted and may not be placed into service until approval is given by Township of Fairfield.

The water for flushing shall be based upon available supply and pressure. It shall be the Contractor's responsibility to maintain the pipeline in a broom swept, debris free condition at all times. The Contractor shall install a night cap during non-working hours.
Following chlorination and after the entire length of the line is ready for operation, all treated water shall be flushed thoroughly from the newly laid pipeline in accordance with AWWA C651-86 Section 1.09, "Disposal of Heavily Chlorinated Water", until the replacement water throughout its length will upon test, both chemical and bacteriological, be proved equal to quality introduced at the permanent source of supply. Samples for laboratory analysis shall be taken after water has stood in the main at least 24 hours following flushing. After final flushing and before the new water main is accepted, two consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected from the new main. Two samples shall be collected from every 1,000 feet of the new water

main, plus one set from the end of the line and at least one set from each branch. All samples shall be tested for bacteriological quality in accordance with *Standard Methods for the Examination of Water and Wastewater*, and shall show the absence of coliform organisms and organism background growth. Heterotrophic plate count may also be used where bacteriological growth is positive. In addition, the tested water shall show no results of air, contaminants, chemical, or particulate mater which does not exist in the source water of the newly installed main.

Should the initial treatment prove ineffective, the chlorination procedure shall be repeated as directed until confirmed tests show the water from the newly laid pipe conforms to the requirements of the preceding paragraph.

The Contractor shall furnish and install at his expense any temporary blow-offs and piping required to discharge the flushing water. The Contractor shall pay the Owner for all water used for flushing purposes at no markup. This cost, with no markup shall be included in the prices bid for pipe installations.

The Contractor shall be responsible for the disposal of all chlorinated water above the distribution system chlorine residual in accordance with AWWA C651 Section 1.09 and in conformance to all regulations governing this disposal. This shall include any permitting that may be related to this work.

DIVISION 700 – ELECTRICAL

SECTION 701 – GENERAL ITEMS

701.03.15 Cable and Wire

C. Connection and Coordination with Utility Services.
THE FOLLOWING IS ADDED TO THE FOURTH PARAGRAPH:

At Substantial Completion, provide the RE with the letter of transfer from each utility company to be effective the next month after Substantial Completion or as directed by the RE.

SECTION 702 – TRAFFIC SIGNALS

702.03 CONSTRUCTION
THE FOLLOWING IS ADDED:

After placing a new, temporary or interim traffic signal system into operation, inspect the traffic signal system every 2 months. Fill out a Contractor Maintenance Traffic Signal Inspection Report (Form EL-16C) when the traffic signal system becomes operational, when the traffic signal system is modified, and at every 2-month inspection.

Maintain as-built drawings of each signal modification. Place copies of the as-built drawings for each traffic signal system modification, Forms EL-16C, and Forms EL-11C in a plastic pocket mounted inside the cabinet door of each controller cabinet. Also provide a copy of all forms and as-built drawings to the RE.

If a new, temporary or interim traffic signal system fails or becomes damaged, repair and restore the traffic signal system to normal operation. Begin repair of the traffic signal system within 2 hours of receiving notice of damage or malfunction from the Department, State police, or local authorities. Ensure that workers assigned to such repair work continuously until the traffic signal resumes normal signal operation.

For each response to a system failure or damage, fill out a Contractor Maintenance Emergency Call Record (Form EL-11C) and place it in a plastic pocket mounted inside the cabinet door of each controller cabinet.

If the Contractor fails to respond to a failure or damage notification and begin work within 2 hours of notification, or does not continue to work until the traffic signal system resumes normal operation, the Department, in the interest of safety, will respond with its own forces to restore normal operation. If the Department mobilizes its forces to effect repairs, the Contractor agrees to pay the Department a sum of $3000 for costs of mobilizing its forces and equipment. In addition, the Contractor must pay the Department the actual cost of material used for the repair and pay the actual costs of police traffic protection.

702.03.11 Temporary and Interim Traffic Signal Systems
THE FIRST THROUGH FIFTH PARAGRAPHS ARE DELETED:

SECTION 703 – HIGHWAY LIGHTING

703.03 CONSTRUCTION
THE FOLLOWING IS ADDED:

Maintain up-to-date as-built drawings of the highway lighting system and temporary highway lighting system. Place copies of the as-built drawings in a plastic pocket mounted inside the meter cabinet, and provide a copy to the RE

If the highway lighting system or temporary highway lighting system fails or becomes damaged, repair and restore the system to normal operation. Begin repair of the signal system within 2 hours of receiving notice of damage or

malfunction from the Department, State police, or local authorities. Ensure workers assigned to such repair work continuously until the lighting system is restored to normal operation.

For each response to a system failure or damage, fill out a Contractor Maintenance Emergency Call Record (Form EL-11C) and place it in a plastic pocket mounted inside the cabinet door of each controller cabinet.

If the Contractor fails to respond to a failure or damage notification and begin work within 2 hours of notification, or does not continue to work until the lighting system is restored to normal operation, the Department, in the interest of safety, will respond with its own forces to restore normal operation. If the Department mobilizes its forces to effect repairs, the Contractor agrees to pay the Department a sum of $3000 for costs of mobilizing its forces and equipment. In addition, the Contractor must pay the Department the actual cost of material used for the repair and pay the actual costs of police traffic protection.

SECTION 704 – INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

704.02 MATERIALS

704.02.01 Materials

THE FOLLOWING MATERIALS ARE ADDED:

Cable Modem 918.15
Ethernet Cable 918.16

704.03.01 General System (GS)

B. Installation.
THE FOLLOWING IS ADDED:

7. Communications Media

Install Broadband Connection for the length of the project, as approved by the Engineer. Ensure a Cable Broadband connection has a minimum downstream data rate of 10 Mbps and minimum upstream data rate of 2 Mbps.

Ensure the Broadband Connection to Comcast Cable Co. includes any and all necessary components for the connection including cable modem, coaxial cable, Cat-6 Ethernet cable, terminal server and media converter.

Ensure Broadband Connection is coordinated with Comcast Cable Co. Install Connection in Contractor's name and hand over without interruption of service at Substantial completion of Contract to the State of New Jersey.

C. Testing.

2. Project Testing.

THE FIRST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

After the Contractor's verification test, the Department will conduct a 14-day observational and functional test period of all systems on the Project.

704.03.02 Camera Surveillance System (CSS)

B. Installation.
THE FOLLOWING IS ADDED:

If directed by the RE, provide a bucket truck with safety equipment that can reach the height of the camera. Operate the bucket truck for the Department to use to determine the camera's final location and orientation, and for testing.

3. Camera.

THE FOURTH PARAGRAPH IS DELETED.

DIVISION 800 – LANDSCAPING

SECTION 807 – TOPSOIL STABILIZATION

807.02 MATERIALS

THE FOLLOWING MATERIALS ARE ADDED:

Washed Riverjack Stone	917.06.06
Weed Barrier	917.11.04

807.03 CONSTRUCTION

THE FOLLOWING SUBPART IS ADDED:

807.03.02 Washed Riverjack Stone with Weed Barrier

Excavate as specified in Section 202. Shape and compact the underlying maters to a firm even surface. Place the landscape weed barrier. Place a uniform 4-inch layer of washed river jack stone on the landscape weed barrier.

807.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
WASHED RIVERJACK STONE WITH WEED BARRIER	SQUARE YARD

SECTION 811 – PLANTING

811.01 DESCRIPTION

THE FOLLOWING IS ADDED:

This section also describes the requirements for constructing landscape accent walls.

811.02 MATERIALS

THE FOLLOWING MATERIALS ARE ADDED:

Brick	910.01
Concrete Block	910.02
Concrete	903.03
Mortar	903.08.01
Reinforcement Steel	905.01
Non-Structural Precast Concrete	904.01

811.03 CONSTRUCTION

811.03.02 Plant Establishment Period
THE THIRD AND FOURTH PARAGRAPHS ARE CHANGED TO:

The Department will reinspect the plants annually for 2 years, beginning approximately 1 year after the start of the plant establishment period. If the Department determines that plants need to be replaced after each inspection, replant plants

as specified in 811.03.01 within 3 weeks of notification. If replacing outside of the optimal planting season as specified in Table 811.03.01-1, only use containerized or balled and burlapped plants that are certified as being dug dormant.

2. Maintenance Bond.

Provide a bond to the Department in the amount of $15,000.

THE FOLLOWING SUBPART IS ADDED:

811.03.03 Landscape Accent Wall

Deliver a 3-foot by 3-foot sample to the RE for approval. Ensure sample shows the pattern, color and texture of the brick veneer face, stucco finish, and type of pointing. Ensure the finished wall matches the sample.

At least 30 days before beginning the work, submit working drawings for approval that include the following:

1. Structural design calculations signed and sealed by a Professional Engineer licensed in New Jersey. Ensure the design criteria conforms to Section 47 of the current NJDOT Design Manual for Bridges and Structures.
2. General Notes, design parameters, and factors of safety.
3. An elevation view of the wall showing elevations at the top of the wall, the beginning, and the end.
4. Plan view of the wall showing the offset from the construction baseline.
5. Typical section of the wall.

Ensure that the design conforms to the Department's design manuals.

Excavate as specified in 202.03.03. Shape and compact the underlying material to produce a firm, even surface. Obtain RE approval before finishing excavation. If the RE determines the bottom of the excavation is unstable, undercut, backfill and compact as directed by the RE.

Place reinforcement steel as specified in 504.03.01. Place concrete as specified in 504.03.02.

811.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
LANDSCAPE ACCENT WALL	SQUARE FOOT

The Department will measure the landscape accent wall by the square foot. The area measured is the product of the average height determined by the top of the wall and by extending the final ground line bottom of the wall to a vertical plane of the front face of the wall and the total length of wall.

DIVISION 900 – MATERIALS

SECTION 904 – PRECAST AND PRESTRESSED CONCRETE

THE FOLLOWING SUBSECTION IS ADDED:

904.05 WATER QUALITY TREATMENT STRUCTURE

904.05.02 Fabrication

Ensure that the water quality treatment structure No. 1 is one of the following:

1. Manufacturer – Contech Stormwater Solutions, Inc.; Model – High Efficiency Continuous Deflective Separator Unit; Size – PMSU20_20
2. Manufacturer – Imbrium Systems Corp.; Model – Stormceptor OSR; Size – 140
3. Manufacturer – Aquashield; Model – Aquaswirl; Size – AS-4

Ensure that the water quality treatment structure No. 2 is one of the following:

1. Manufacturer – Contech Stormwater Solutions, Inc.; Model – High Efficiency Continuous Deflective Separator Unit; Size – PSWC40_40
2. Manufacturer – Imbrium Systems Corp.; Model – Stormceptor OSR; Size – 780
3. Manufacturer – Aquashield; Model – Aquaswirl; Size – AS-10

Provide direct access using standard NJDOT manhole frames and covers. Ensure pipe openings are sized to accept pipes of the specified sizes.

904.05.03 Quality Control and Acceptance Requirements

The water quality treatment structure manufacturer shall furnish documentation that supports all product performance claims and details storage capacities and maintenance requirements.

The contractor may choose an alternate to the water quality treatment structure shown on the contract drawing. Ensure alternate water quality treatment structures meet all of the following criteria:

1. Provide materials as specified:

Concrete	903.03
Mortar	903.08.01
Curing Materials	903.10
Reinforcement Steel	905.01
Butyl Mastic Sealant	ASTM C990
Aluminum	ASTM B209
Hydraulic Cement	ASTM C595M
Plastic Wire and Cable	ASTM D1248
Plastic Pipe (from 10 to 120 inches)	ASTM F894
Plastic Pipe (less than 10 inches) and fittings	ASTM A3350

2. Provide a water quality treatment structure that consists of a precast concrete chamber fitted with suitable hydraulic controls to provide removal of sediment and oil from stormwater entering the chamber.
3. Ensure that the long-term removal is of eighty percent of the total suspended solids in the stormwater passing through the unit.

4. Ensure that the system does not re-suspend trapped sediments or re-entrain floating contaminants at flow rates up to the and including the peak treatment capacity listed in table 904.05.02-1.

Table 904.05.02-1 Peak Treatment Capacity		
Device	**Peak Treatment Flow (cfs)**	**Peak System Flow (cfs)**
Water Quality Treatment Structure No. 1	**1.6**	**2.1**
Water Quality Treatment Structure No. 2	**8.8**	**7.0**

5. Ensure the water quality treatment structure is currently approved by NJDEP. The current list of approved devices can be obtained by accessing the Department of Environmental Protection's web site at http://www.state.nj.us/dep/dsr/bscit/CertifiedMain.htm.
6. Provide internal metal components that are 1/4-inch thick aluminum alloy 5052-H32.
7. Provide tongue and groove or ship lap joints.
8. Ensure that the water quality treatment structure is capable of supporting an AASHTO HS-25 loading.
9. Submit working drawings for approval that include pipe layouts, product data sheets, and computations for the water quality treatment structure.

SECTION 910 – MASONRY UNITS

910.04 STONE CURB

Ensure Belgian Block Curb lithology is granite.
Ensure Belgian Block Curb color is gray.
Ensure Belgian Block Curb texture is rough.

THE FOLLOWING IS ADDED:

3. Belgian Block

Ensure that all faces have a rough finish. Provide stones 7 inch or less long, 4 inch or more deep, and 10 inch or more high.

SECTION 913 – GUIDE RAIL, FENCE, AND RAILING

913.02 FENCE

913.02.01 Chain-Link Fence

THE FOLLOWING IS ADDED:

Ensure chain-link fence fabric for the Hollywood Avenue Bridge over Route 46 is aluminum coated-coated steel that conforms to Type II with 1-inch diamond mesh number 9 gage coated wire.

THE FOLLOWING SUBPART IS ADDED:

913.02.04 Vinyl Fence

Provide tan pickets, rails, posts, and post caps that conform to ASTM D1784.
Provide fastening hardware conforming to manufacturer's recommendation. Ensure the fence is a privacy fence.

SECTION 917 – LANDSCAPING MATERIALS

917.06 MULCH

917.06.06 Gravel

THE FOLLOWING IS ADDED:

For washed riverjack stone surface, use uncrushed washed river type rounded stones, as specified in 901.03.02. Ensure the riverjack stones are graded in the 1-inch to 3-inch size range. Ensure the color is a blend of whites, grays, reds, and light browns. Before use, submit a sample to the Landscape Architectural Unit for approval. With each shipment, provide a delivery ticket indicating source and weight of the river type rounded stones.

917.10 PLANT MATERIALS

H. Inspection.
THE SECOND PARAGRAPH IS CHANGED TO:

> The Department may inspect plant materials before delivery to the Project Limits and upon delivery to the Project Limits before installation. The Department may seal the inspected plant materials. For plant material originating from nurseries farther than 100 miles from the Project Limits, stock plant material at a Contractor-provided holding yard that is acceptable to the Department. The Department may inspect plant material originating from nurseries within 100 miles of the Project Limits at the nursery. Ensure that all plant material is untied and located so that trunk or stem and branch structure can be easily inspected. Provide sufficient notice to allow Department inspection at the nursery or holding yard and to allow time for Contractor reordering of rejected material. Notify the RE at least 72 hours in advance of delivery to the Project Limits for installation. The Department will reject materials arriving with broken or missing seals, broken or loose balls, broken or pruned leaders, insufficient protection, or that have been damaged in transit. The Department may randomly inspect the root system of the plant material by breaking open the earth balls. Provide necessary assistance during Department inspections.

917.11 MISCELLANEOUS LANDSCAPE MATERIALS

THE FOLLOWING SUBPART IS ADDED:

917.11.04 Landscape Weed Barrier

Use 100 percent polypropylene woven fabric. Ensure the fabric is black. Ensure the weight is greater than 3 ounces per square yard. Ensure the weed barrier is a manufacturer's product specifically designed for this purpose.

SECTION 918 – ELECTRICAL MATERIALS

918.12 PEDESTALS, POLES, TRANSFORMER BASES, AND MAST BRACKET ARMS
THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Fabricate pedestals, poles, transformer bases, and mast bracket arms for traffic signal, highway lighting, and camera standards with materials according to the appropriate ASTM standard and the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

THE FOLLOWING SUBSECTIONS ARE ADDED:

918.15 CABLE MODEM
Ensure the cable modem is capable of operating on CATV (Cable Television) network by communicating CMTS (The Cable Modem Termination System). For point-to-point communications between two cable modems, all messages will be relayed through CMTS. The modem shall meet the following requirements:

1. Standards

DOCSIS 1.1, DOCSIS 2.0
IEE 802.3, IEE 802.3u

2 Data Protocol

TCP/IP

3. Data Rate

Downstream: 38 Mbps
Upstream: 30 Mbps

4. Bandwidth

Downstream: 6 MHz
Upstream: up to 6.4 MHz

5. Modulation

Downstream: 64 or 256 QAM
Upstream: 8, 16, 32, 64, 128 QAM or QPSK

6. Frequency Range

Downstream: 88 to 860 MHz
Upstream: 5 to 42 MHz (Edge to Edge)

7. Impedance

Input/Output: 75 Ohms (Nominal)

8. Remote Configuration

SNMP
TFTP

9. Connectors

Cable: F-connector, female 75 Ohms
Ethernet: Ethernet 10/100 Base T, RJ-45 Port

10. Indicators
Ensure the modem has, at the minimum, the following LED's indicators:

Power
Receive
Send
Online
Ethernet
Standby

11. Mechanical

Maximum dimension shall not exceed 6.5 x 2.5 x 6 in.

Maximum weight shall not exceed 1 lb

12. Environment

Operating Temperature: 32 °F to 104 °F
Storage Temperature: -22 °F to 158 °F
Operating Humidity: 10 to 85 %, Non-Condensing

13. Electrical Power

The equipment shall operate over a voltage range of 105 to 125 volts AC at 60 hertz. The power supply shall be equipped with a minimum of a 6-foot power cord terminating in a standard 3-prong line plug. Maximum power requirements shall not exceed 20 watts for each modem. A power on/off switch shall be mounted on the chassis.

14. Software

Licensed software CD ROM for installation shall be provided with the modem.
The modem shall support standard internet software.

15. Identification

Unit shall be identified with a metal plate containing the serial number with bar code identification.

918.16 ETHERNET CABLE

Ensure the Ethernet cable is suitable for outdoor installations and conforms to the following requirements:

1. The cable shall consist of 4 pairs of No. 24 AWG solid bare annealed copper conductors for outdoor installation.

2. The cable shall be UL listed for intended use.

3. The cable shall conform to the following requirements:

ANSI/TIA/EIA 568B.2-1 Cat5e/Class D
ISO 11801 Cat5e/Class D
NEMA WC-63.1 Cat5e/Class D
IEEE 802.3 Latest Revision – 2005 is the current edition
IEEE 802.3ab 1000 BASE-T – 1 Gbit/s (125 MB/s)
IEEE 802.3ae 10 Gbits/s (1,250 MB/s) Ethernet over Fiber; 10BASE-SR, 10BASE-LR, 10BASE-ER, 10BASE-SW, 10BASE-LW, 10BASE-EW
IEEE 802.3atPoE – Power over Ethernet – This could be used to power small distance devices.
IEEE 802.3ah Ethernet in the First Mile
IEEE 802.3an 10GBASE-T – 10 Gbit/s (1,250 MB/s) Ethernet over Unshielded Twisted Pair
CMR, CMX-outdoor, UL444

4. Ensure each conductor is insulated with Non-Plenum polyolefin material.

5. Ensure the inner jacket is polyvinyl chloride (PVC) with a nominal wall thickness of 0.2 inches. Ripcord shall be provided longitudinally under the inner jacket.

6. Ensure the outside jacket is unshielded industrial grade polyvinyl chloride (PVC) of wall thickness 0.035 inches. Ensure ripcord is provided longitudinally under the jacket.

7. Ensure the cable normal outer diameter is less than 0.285 inches.

8. Ensure color code for Ethernet copper cable conforms to the requirements of Table 918.16-1:

Table 918.16-1 Pair Color Code Chart	
Number	**Color**
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

9. Electrical Characteristics:
The cable shall meet at a minimum the following electrical performance requirements:

Nominal Mutual Capacitance @ 1 KHz:	15 pF/ft
Maximum Capacitance Unbalance (pF/100 m):	66 pF/100 m
Nominal Velocity of Propagation:	70 %
Maximum Delay (ns/100 m):	510 ns/100 m
Maximum Delay Skew (ns/100 m):	25 ns/100 m
Maximum Conductor DC Resistance @ 68 °F (20 °C):	9 Ohms/100 m
Maximum DCR Unbalance @ 68 °F (20 °C):	3 %
Maximum Operating Voltage – UL:	300 V RMS

10. Ensure the storage and operating temperature for cable is –40 °F to +167 °F (-40 °C to +75 °C)

11. Ensure the Minimum Bending Radius is 0.29 inches.

12. Ensure the Maximum Pulling Tension is 40 lbs per 1000 feet.

13. Ensure the cable is equipped with “male sided” 8P8C Modular Connectors, commonly referred to as RJ-45 Connectors, at both ends.

14. Ensure the cable is identified with manufacturer’s identification, cable type, category and year of manufacture at 2-foot intervals on the outer jacket.

SECTION 919 – MISCELLANEOUS

919.01 GEOTEXTILES

THE FOLLOWING SUBPART IS ADDED:

919.01.01 Geogrid Reinforcement

Use a uniaxially or biaxially oriented polymer grid structure composed of polypropylene, polyester, or high-density polyethylene.
Ensure that the joints at the crossover points of the grid elements are integrally connected. Ensure that elements will not separate under handling and construction activities, stress levels, and environmental conditions.
Ensure that the geogrid meets or exceeds the properties in Table 919.01.01-1:

Table 919.01.01-1 Geogrid Reinforcement Properties		
Direction	**Principal**	**Minor**
T-Design long term (2):	1,000 lb/ft @10% strain	N/A
T-Ultimate (3)	2,600 lb/ft	N/A
T-Allowable (4)	1,000 lb/ft.	N/A

Pullout Resistance (5)	1,500 lb/ft (Normal Stress = 140 psf	N/A

(1) All numerical values represent minimum average roll values required in the designated direction.
(2) The principal direction is the direction of the grid that is placed perpendicular to the embankment side slope (whether cross or machine direction), which is determined by the length, width and strength in both directions of available grids. Indicate in writing the dimensional characteristics of the grid selected and the proposed placement details.
(3) T-ULTIMATE represents the geogrid strength tested in accordance with ASTM D-4595.
(4) T-ALLOWABLE is the strength extrapolated to a minimum 75 year design life based on creep strength, aging degradation, chemical and biological effects, and the influence of construction site damage. Submit evidence from the manufacturer in the form of creep tests (minimum of 1000 hours), durability data, and chemical and biological compatibility test information on the grid polymer to substantiate that the product meets the allowable strength requirement.
(5) The pullout resistance in the principal direction must meet or exceed the specified value under the indicated normal stress and a 3-foot embedment length in the soil material proposed for embankment construction.
For each consignment, furnish a sample of the geogrid and two copies of a certificate signed by a legal authorized officer of the geogrid manufacturer certifying that the product meets the requirements of this specification. Submit proof of test results with the certificates. At least two weeks prior to construction, provide suitable samples of the geogrid taken from the actual rolls that will be delivered to the site for testing by the Department.